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News

COOLTOOLS

The KR1 Mobile Router creates an instant broadband wireless network through an EV-DO-enabled cell phone.
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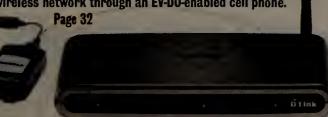## THE BEST PRODUCTS ISSUE

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This special Signature Series package begins on page 37.

ILLUSTRATION JAMES TURNER

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ITVideo: The Kyocera KR1 Mobile Router
Need to share a wireless WAN connection with multiple users? In Cool Tools, Editor Keith Shaw has the tool for you: a wireless router from Kyocera that uses an EV-DO card for its Internet connection. **DocFinder: 2373**

Gaskin Guide: SMB storage and Linux
Columnist James Gaskin is getting ready to test network-attached storage boxes for the small office. If you have NAS questions, he wants them. He also explains how Linux GUIs just keep getting better. **DocFinder: 2375**

Online help and advice

Analyzing an employee's PC use without his knowledge
An employer suspects a user is up to no good with his work PC. Help desk guru Ron Nutter helps out with some forensic analysis on the QT. **DocFinder: 2376**

It pays to reduce branch-office clutter
Over the years, all those Ethernet cables and peripherals seem to proliferate like crazy. Robin Gareiss, of Nemertes Research, explains why it's time for a little spring cleaning. **DocFinder: 2377**

An InfiniBand primer
Analyst Mike Karp takes you through this storage technology. **DocFinder: 2378**

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NEWS

Survival of the fittest managed service providers

BY DENISE DUBIE

The market for managed service providers sprang up and flourished in the late 1990s and early 2000s, then wilted just as quickly. Many went bust or succumbed to acquisition, but the savviest adapted their business models and tweaked their offerings to survive the changing market.

Today some survivors are thriving, some with upwards of 70% year-over-year revenue growth, and new providers are emerging. Industry watchers say the current market climate is right for customers, who have grown more confident of managed services' reliability and security, and for MSPs themselves.

"Specialty managed services such as security and storage, and software-as-a-service licensing models are popular among IT buyers now," says Jeff Kaplan, managing director at ThinkStrategies. "Similar to Salesforce.com, today's services provide customers with an on-demand model for management."

Newer companies such as Corente, Kaseya and N-Able Technologies package their software platforms for use by systems integrators and for value-added resellers (VAR) to sell directly to customers. Others such as Center-Beam focus primarily on small and midsize businesses, and Perimeter Internetworking provides managed security services to enterprises. Managed e-mail messaging and archiving products from companies such as FrontBridge Technologies, MessageLabs and Postini also have become popular with customers. In addition, IT buyers over the past two years have invested more in managed storage services from EMC, HP and IBM.

Charles Weaver, president of the MSP Alliance, says one reason providers continue to emerge is that getting started is not as much

Tips for working with managed service providers

Here's what industry watchers say to consider when outsourcing:

Customer support: A fancy network operations center may not be necessary, but be certain the MSP dedicates support staff to your account.

Integration: With multiple best-of-breed services available, ask the MSP how its offerings can work with other services you might have in place or are considering.

Reporting: Make the MSP accountable. Require it to provide extensive reporting as part of your managed services contract.

Scalability: The MSP could be addressing an isolated IT task, but be sure the niche service can scale to your network's needs.

of an obstacle as it used to be.

"In the past you needed a huge pile of [venture capital] money to get started, because the infrastructure and management tools were cost-exorbitant," he says. "Now that software licensing models are more flexible and it's been proven there is no need for a hardened [network operations center] to deliver services, new companies can get off the ground more quickly."

Here are the stories of three MSPs that have weathered the industry's ups and downs.

Everdream

Among the survivors, Everdream is the one that had to change the least. Founded in 1998, Everdream got $50 million in venture funding in 2000 and another $20 million in 2005. It

Ford not quite in cruise control

Automaker's wireless project hasn't stalled, but isn't accelerating.

BY DENISE PAPPALARDO

A trend that has taken the consumer world by storm — ditching home landlines for mobile phone service — is having a more difficult time catching on in the corporate world.

Ford Motor Co. brought attention to the workplace alternative a year ago with its announcement that 8,000 employees would be cutting the cord. And although Ford today reports the migration went well, even the automaker expresses concerns about expanding the project — and has no timetable for doing so.

"Overall I'd say it has gone very well," says Jeff Lemmer, IT manager of telecom services at Ford. "Our biggest concern going into this was coverage. [Sprint] has gone beyond our expectations."

Lemmer says Sprint did a lot of work upfront and throughout the 12-month deployment to make sure Ford's employees would have reliable, high-quality service.

Although employee response has been positive, he says other issues will prevent the automaker from expanding its deployment for now. Those include the lack of handsets designed for business users, the lack of mature wireless-to-wireline integration products and the need for wireless service providers to change the way they view business customers.

Industry experts say such issues are undoubtedly keeping others from following Ford's lead.

"It's not surprising that we haven't heard of many other large business users making the switch," says Phil Redman, a vice president at Gartner. "There are still a lot of challenges with in-building coverage, lack of features such as four-digit dialing, and poor [device] battery life," he says.

Despite inquiries to all of the major wireless service providers, *Network World* was not able to find any examples of other large-scale deployments.

"People are in discovery mode" when it comes to cutting the cord to traditional phone services for an all-mobile alternative, says Bob Egan, research director of emerging technologies at Tower Group.

"Ford is perhaps the most notable, but some users within IBM's salesforce, some at Goldman Sachs and

Pioneer Investments have also made the move. Cell phone makers and service providers are making inroads into offering users more ergonomic devices, but frankly users like Ford are going to be more of the exception than the rule for some time."

That doesn't mean the wireless carriers aren't actively currying favor with businesses. Cingular Wireless and Verizon Wireless have made announcements this year about new services geared to wireless users. Sprint has been ahead of the pack, offering services specifically geared to business users for nearly three years. According to Lemmer and analysts, however, more work needs to be done.

"The only thing I wish would change is just how the

> **"The only thing I wish would change is just how the cellular companies treat the business community."**
>
> *Jeff Lemmer, IT manager of telecom services, Ford*

cellular companies treat the business community," Lemmer says. "That is something that's really important, to make sure the product development organizations of those companies realize that the business mentality is different from the consumer mind-set and they're going to have different needs."

"Nextel is probably the closest ... with a little bit more of that business mentality," he says. "We're really hoping to see more of that type of collaboration now that Sprint and Nextel have come together."

Many of Ford's 8,000 users also use Sprint's ReadyLink walkie-talkie service, which saps more battery life from the phones than anticipated.

"We would have liked a handset that had a longer battery life, where [users] didn't have to plug in as often. And functions like advanced voice mail support," he says.

Device manufacturers and service providers "typically engineer and design handsets for the consumer community," Lemmer says. "There isn't a mind-set for meeting the type of functions that a person in a business environment needs."

Lemmer says Ford may still expand its wireless-only deployment to "small pockets here and there, but it really is for a user base that is very mobile and col-

NEWSbits

IBM stirs SCO lawsuit pot

The long-running legal battle between The SCO Group and IBM over source code ownership could uncover some interesting relationships, after IBM requested last week that BayStar Capital, HP, Microsoft and Sun turn over documents relating to their communications with SCO. The subpoena requests seek communications between the companies and SCO, documents concerning efforts to maintain the secrecy of the Unix source code and information related to royalties paid for Unix. The dispute dates back to 2003, when SCO charged IBM with offering open source software based on source code SCO owned. The subpoena requests also could reveal information relating to other SCO relationships, particularly with Microsoft. Just after SCO filed its lawsuit against IBM, Microsoft signed a Unix licensing agreement with SCO. BayStar, a venture capital firm that invested in SCO, said Microsoft had referred it to SCO.

German telecom calls on Google

The chief executive of Deutsche Telekom became the latest head of a major telco to call for Web companies, such as Google and Yahoo, to contribute to the billions of dollars required to build and maintain high-speed Internet infrastructure. "Customers should not be the only ones to pay for this new world," CEO Kai-Uwe Ricke said in an interview published last week in the German weekly business magazine WirtschaftsWoche. "Web companies that use this infrastructure for their business should also make a contribution." The German CEO's remarks echo those made earlier this month by John Thorne, senior vice president and deputy general counsel at Verizon. Vinton Cerf, co-author of TCP/IP and a Google vice president, has warned in recent interviews that the Internet's freedom could be compromised and consumer choice and innovation limited if protections aren't put in place to keep the Internet free and neutral.

Fingerprint biometrics advance

University of Buffalo researchers say they have put their fingers on a way to improve the security of wire-

━━ COMPENDIUM ━━

World's largest app error?

On a recent trip to New York City, our intrepid staff photographer took photos of a DirectX error splayed across a frozen two-story electronic billboard. **See for yourself — and jump into the operating system flamewar (if you dare) at www.nww.com, DocFinder: 2370.**

> "Have a green-sounding employee call the vendor's support line during off-hours with a tough question that you already know the answer to."

Network World Lab Alliance member David Newman, on evaluating vendor support. **Full story, page 66.**

less handheld devices and Web sites. The findings also could help eliminate the need to remember a dizzying array of passwords and aid forensics specialists, according to Venu Govindaraju, a University of Buffalo professor of computer science and engineering, and director of the school's Center for Unified Biometrics and Sensors. The research specifies how big a keypad sensor needs to be and how big a fingerprint image should be. A key shortcoming of biometric systems now is that sensors often can take only partial fingerprints, Govindaraju says. Enabling more complete fingerprinting will let companies better gauge the level of security they can provide, he says. The algorithm also takes into account the fact that even a legitimate fingerprint doesn't always look the same, as a result of the way a person presses on a pad, or because of moisture or other factors.

IBM protecting us from our own

IBM Friday announced a security product that helps protect companies from internal attacks on their IT systems. The Identity Risk and Identification software

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TheGoodTheBadTheUgly

< Happy anniversary, HP Labs. HP Labs this year is celebrating its 40th anniversary. Not resting on its laurels for having made breakthroughs in everything from calculators to printing, researchers at the lab are envisioning a future with everything from virtually unstaffed data centers to low-cost, lightweight multimedia displays as small as a watch or as large as a wall.

Teen bloggers exposed. Northwestern University researchers say teenage bloggers are putting themselves at risk for cyberstalking and cyberbullying by being too free with their real names, ages and offline locations. The research, which included a look at about 70 randomly selected teenagers' blogs, was being discussed this past weekend at a science convention in St. Louis.

Dell gets dumped. In a blow for Dell, the company confirmed last week that it has lost a services deal with Dutch electronics giant Koninklijke Philips Electronics that was valued at as much as $700 million. Although Dell declined to say exactly what went wrong, the company said it worked with Philips for the past 12 months to provide hardware and managed desktop services. Philips continues to be a Dell products customer.

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analyzes user activity on a network, looking for irregularities that might indicate unauthorized or improper access. The component is part of IBM's Identity Management Services, one of its security software offerings. The software is configured to integrate with the company's Tivoli Identity Manager and Tivoli Access Manager, both of which manage passwords and permission to use applications, IBM said. The software can compare a user's online activity with previous activity, and plot that use against other peer users. It can also do a prospective analysis, providing a warning of potential misuse. IBM said Identity Risk and Identification is a step beyond user IDs, passwords and biometric or secure cards, because those identification methods confirm user access but can't verify proper use.

Data thief gets eight years in jail

Scott Levine, formerly principal owner of e-mail marketing firm Snipermail, last week was sentenced to eight years in prison on charges related to theft of more than 1 billion data records, the U.S. Department of Justice said. Levine, 46, of Boca Raton, Fla., was sentenced for 120 counts of unauthorized access of a protected computer, two counts of access device fraud and one count of obstruction of justice, the Justice Department said. Between January and July 2003, while at Snipermail, Levine stole records containing personal information, including names, physical and e-mail addresses, and phone numbers. The data belonged to Acxiom, a repository of personal, financial and company data, including customer information held for other companies. Acxiom offers customer and information management services, as well as marketing services.

RIM, BlackBerry users win reprieve for now

BY JOHN COX

In perhaps the industry's biggest anticlimax so far this year, a U.S. District Court judge ended Friday's hearing on the Research in Motion vs. NTP patent battle without deciding much.

Judge James Spencer did not rule on NTP's request that he issue an updated $126 million judgment as soon as possible, or on reinstating an injunction to block RIM's BlackBerry service in the United States.

Spencer said he would take the matter under advisement and that he expected to rule first on the damages award. A jury trial found in 2002 that RIM, a Canadian company, had infringed on U.S. patents issued to an NTP founder. NTP is seeking damages and a royalty agreement from RIM, which has fought a delaying action since persuading the U.S. Patent and Trademark Office to re-examine the patents.

RIM posted a brief statement Friday on its Web site that it had received that day a copy of yet another final ruling by the Patent Office that rejects all the claims

> ## "Fundamentally for [RIM], settlement has never been an option."
> *Jim Balsillie, RIM co-chief executive*

associated with the third, and according to RIM, final NTP patent. Earlier last week, the Patent Office issued a final action on another NTP patent. NTP can appeal these actions to a Patent Office board, and if unable to overturn them there, try to do so via federal courts.

Following the hearing, RIM co-chief executive Jim Balsillie was defiant in an interview with CNBC, according to the Canadian newspaper, *The Globe and Mail*.

"Fundamentally for Research in Motion, settlement has never been an option," Balsillie was quoted. "Until they [NTP] change their tactics, it remains not an option. So we have to plan our life understanding that we go ahead with the workaround [software], that we incur the

cost of the workaround. It's far less than any settlement cost."

RIM recently announced a few sketchy details of new software that the company says will allow U.S. customers to continue using the service, without using the technology covered by the NTP patents.

Last week, on the eve of the hearing, NTP issued a press release charging that RIM was guilty of "numerous mischaracterizations" about the validity of the NTP patents. NTP argues that the courts have repeatedly upheld the validity of the patents, either by verdict and ruling or by declining to review or overturn lower court findings. NTP also asserts that the current review by the Patent Office is part of a lengthy "re-examination process" that includes internal appeals and federal court appeals.

But more inflammatory is NTP's assertion in the release that RIM used "lobbyists and political connections to exert political influence to have the [U.S. Patent Office] re-examine NTP's patents."

The company says the documents, which have not been made available publicly, reveal that there were previously undisclosed communications between RIM's lobbyists and the Patent Office. One of the lobbyists, NTP says, is former PTO official David Stewart. The statement also says the Canadian embassy "sought to find a means" for the Canadian government to "exert pressure" on the Patent Office. RIM is headquartered in Canada.

NTP also says documents reveal that, after losing its appeal in the U.S. Circuit Court of Appeals, RIM had undisclosed meetings with Patent Office officials even though the office's regulations "expressly forbid such meetings." The statement asserts that requesting a patent re-examination after losing a jury verdict is "plainly prohibited" by U.S. law, namely the U.S. Patent Act, Section 317 in Title 35 of the United States Code.

NTP's public relations agency did not respond by press time to a request for copies of these documents. ∎

Microsoft unveils latest Vista beta

BY JOHN FONTANA

Microsoft last week highlighted the first feature-complete beta release of its Vista client operating system with a new set of deployment tools designed to help corporate users more easily deploy and maintain the desktop software.

The Community Technology Preview (CTP), as the Vista betas

Ford

laborative."

The initial deployment covers Ford's product development department, which Lemmer points out "is a user group that is very collaborative. They spend a lot of time working together and at different locations. They are constantly on the go."

These employee characteristics might make a future deployment worthwhile. But before then, he says, there are technologies, such as seamless mobility, that he will look at before moving forward. Seamless mobility, also known as wireless-to-wireline integration, will make it easier for business users to marry landline PBX features such as four-digit dialing and a single voice-mail box for employees whether they're using a VoIP, wireless or traditional phone.

Lemmer says he is testing products from Cisco and products through Sprint, but he does not know when he might deploy these platforms.

Other vendors in the mobile-PBX integration market are Ascendent Systems and Orative. These vendors' products work across a variety of PBXs and mobile devices. ■

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are called, was the first targeted specifically at corporate users. It now includes the complete set of operating system deployment tools, including new imaging, distribution and installation tools.

"For Microsoft to get customers to move onto the most current product, they have to make migration easier and have a lot less touch required on the part of IT managers," says Al Gillen, an analyst with IDC. He says deployments of new operating systems to existing hardware are too hard for users, who typically wait for hardware refresh cycles.

The CTP is the fourth release since September. This is the earliest Microsoft has ever released a feature-complete beta in any operating system development cycle, and the earliest it has made deployment and installation tools available. Vista is expected to ship by year-end.

This February release includes the User State Migration Tool 3.0, which has full encryption capabilities and unattended install, upgrades to the Microsoft Management Console 3.0, enhancements to Group Policy, and event and logging features. The beta also includes a new Task Scheduler and is the first release of Vista's Sidebar, which lets users link to mini-programs called gadgets.

Microsoft had planned to release a CTP every month starting in September, but skipped December, pushing the release out to February as part of what would normally be called Beta 2. The February CTP is expected to reach 500,000 testers and is available to Microsoft Developer Network and TechNet subscribers, as well as those in Microsoft's early adopter programs. The next version is scheduled to arrive before the end of June.

February's highlight is the complete version of the Windows Automated Installation Kit, a collection of deployment tools. The kit has been included in previous CTPs, but containing only the XImage tool, which is used to capture and edit Windows Imaging Files (WIM).

The February CTP adds the System Image Manager and Windows Deployment Services, which are tools to create and edit operating system images and deploy

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Deployment help

Microsoft last week released the first feature-complete and corporate-focused beta of the forthcoming Vista client operating system. One of its highlights was support for new and upgraded tools to ease deployment and maintenance.

Tool	Description	Benefits
Windows Automated Installation Kit	Includes imaging, deployment and data migration tools.	Reduces the number of operating system copies, or images, and automates deployment.
Application Compatibility Toolkit	Helps users test apps for compatiblity with Vista.	Users know what to expect when they fire up Vista.
Business Desktop Deployment	Offers guidance and best practices.	Should let users create repeatable rollout practices.

them to desktops. It also includes Windows Preinstallation Environment 2.0, a foundation tool for aiding in the final deployment of the operation system.

The tools also include Business Desktop Deployment, best practices guidance for rolling out Vista. In April, Microsoft is expected to add the Application Compatibility Toolkit 5.0.

"If we do really well this time

around [with Vista tools], then the next time people don't blink about deployment," says Manu Namboodiri, senior product manager, Windows Client division.

Deployment has proven to be a costly proposition for users, and Microsoft is feeling the heat.

"We have had customers spend $1,000 per desktop to deploy the operating system, and we want to come down to the sub-$100 level,"

Namboodiri says. "We made the decision with Vista that we would provide deployment tools as early in the process as possible."

The vendor is hoping the deployment and installation tools let users reduce the number and size of images, which is designed to make patching and servicing more efficient. Microsoft says companies can spend upwards of $100,000 creating and maintaining a single image.

The new tools complement two features of Vista: its modular design, which simplifies adding optional components to the operating system, and WIM, a file-based imaging format that replaces the less flexible sector-based imaging.

Despite being feature-complete, company officials say Vista could still be subject to some gyrations.

"We still take feedback, and there are still design change requests that are put in, and it is possible to see some features come and go," says Mike Burk, product manager in the Windows Client division. ■

Confab to examine security of utility, other control systems

BY CARA GARRETSON

Professionals concerned with securing the systems that run water and electric utilities, dams, railways and other critical infrastructures are gathering this week in Florida to understand better the challenges facing them and learn how to defend their systems.

Called the Process Control and SCADA (supervisory control and data acquisition) Security Summit, the event is hosted by The SANS Institute, is paid for by the Departments of Energy and Homeland Security, and targets professionals involved with automated industrial control systems.

These systems are fundamentally different from IT networks because, instead of being focused on storing, sharing and securing data, they are designed to maximize the availability and reliability of the railroad or energy plants they run, says Rob Hoffman, manager of the cybersecurity research department at the Department of Energy's Idaho National Laboratory, who spoke during a Webcast last week about the conference.

As organizations begin linking these control systems to their IT networks, however, they are opening the systems to the same types of security threats suffered by data-centric systems, Hoffman says.

"[SCADA] systems are generally stand-alone and were built to meet one need: automation," he says.

"They're only being connected to back-end corporate [networks] after they've already been deployed, so security is at best an add-on, and quite often never designed in."

For example, an organization running a control system linked to its IT system running Windows NT has its control system open to all the vulnerabilities found in Microsoft's operating system, Hoffman says.

Compounding the issue is that control systems are difficult to patch, Hoffman says. "Downtime is not scheduled every week from 1 to 4 a.m., so it makes it very difficult to respond in a rapid fashion with patches to the vulnerabilities."

In addition, many SCADA systems are the targets of not just hackers but terrorists or even nation states, Hoffman adds. He defines five types of potential SCADA system attackers: recreational hackers looking for a challenge; disgruntled engineers; activists with environmental or business concerns; terrorists; and nation states that want to access a control device and stay resident in case of future need.

"The thing that keeps me up at night is a bad guy who understands pressure volume and temperature relationships knowing the right valves and pumps to operate and is able to operate them," says a security professional at a large energy company who asked not to be named. ■

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Verio airs Windows hosting services

BY ELIZABETH MONTALBANO,
IDG NEWS SERVICE

Verio last week introduced six hosted-service plans for Microsoft's Windows Server platform that are designed to provide more options and cost-effective services to small and midsize businesses, the company says.

The company offers several plans that let customers purchase multiple sites running on Windows 2003 servers. Customers can hand off the administration, security and content-creation duties of each site to other parties or sub-accounts, says Bill Thomson, director of product management for shared hosting at Verio. Previously, the company had only one plan, which let customers host multiple sites, but on just one account.

To illustrate the new plans' cost-effectiveness, Thomson says the company's former Hosting 4000 plan offered 25 Web sites for $49.95 a month. Now, the MultiSite plan includes 10 Web sites and costs $24.95 a month, and the WebMaster Plan includes 30 Web sites and costs $59.95 a month.

The other plans Verio launched last week are the Windows eStoreFront Plan, which offers basic e-commerce and shopping cart functionality for two separate sites for $24.95 a month, and the Windows SQL Plan, which is aimed at companies that want to link a Microsoft SQL Server database to their Web sites. The Windows SQL Plan includes two Web sites and costs $29.95 a month.

The new plans are especially helpful for Web site developers who use Verio's hosted services to build sites for customers, Thomson says. Ultimately they can control the customer account with Verio, but can pass off the administration of various sites to their customers. ■

WINDOWS NETWORKING

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SOA vendors ready new wares

BY ANN BEDNARZ
AND JOHN FONTANA

Two vendors are expected to unveil products this week that customers say will help them tap their legacy assets more efficiently in a service-oriented architecture environment.

Software AG is preparing to release Crossvision, a suite designed to help companies deploy and manage application services. Crossvision combines management features with tools for integrating applications, building composite applications and modeling business processes.

For its part, Sonic Software is expected to take the wraps off Actional 6.0, its SOA management platform due to ship in early March. Actional 6.0 will be the first platform upgrade since Progress Software — Sonic's parent company — acquired Web services management vendor Actional for $32 million earlier this year and folded the purchase into Sonic.

Sonic has added features it calls Business Process Visibility that give business users and IT staff insight into the services infrastructures that support business processes. The tools let users write, apply and enforce policies for those processes. In addition, the software can auto-discover the infrastructure, applications and services supporting a business process and create a flow map aimed at faster detection and resolution of problems.

Newly added activity-monitoring tools can be tuned for business users looking for data such as units shipped, and for IT users seeking operational data such as service response time.

"Actional allows us to monitor and centrally manage all the actions on our service fabric," says Israel del Rio, senior vice president of technology solutions for the 800-property Starwood Hotels & Resorts Worldwide. The White Plains, N.Y., company is four years into a project to move its mainframe-based reservation, booking and inventory system to a services architecture. "With Actional we are

SOA assistance

Software AG and Sonic Software are adding to their respective portfolios of SOA-focused management and deployment products.

Vendor:	Software AG
Product:	Crossvision
Key features:	• Bundles tools for composing applications and services, coordinating business processes and integrating systems.
	• Has built-in registry and repository for managing SOA services, policies and processes.
	• Integrates with third-party products including Forum Systems' Web services security software.
Vendor:	Sonic Software
Product:	Actional 6.0
Key features:	• Tools for mapping the infrastructure, applications and services that support business processes.
	• Monitoring features that alert users to designated business events.
	• Security features for locking down an entire business process and preventing unauthorized use of services.

able to find out what type of service calls were being made and what is the service response we are getting," says del Rio, who is beta testing Version 6.0.

Tap into mainframe systems

American Fidelity Assurance Company, a longtime Software AG customer, also is using SOA technology to build business applications that tap into its core mainframe systems.

The insurance company has built services-based applications that automate the process of issuing policies, as well as customer-facing Web applications that use services to link to mainframe databases for executing requests such as a balance look-up or claims presentation.

American Fidelity uses Software AG's legacy integration software and XML database, as well as its mainframe programming language and database management software. The bundling in Crossvision will create closer ties among the products and streamline the process of working with Web services, says Jim Lupton, vice president of IS at the Oklahoma City company.

"We had a lot of the pieces already, but they were all separate," Lupton says. "We didn't really have the architecture to make them work together without building it ourselves."

Lupton expects American Fidelity will be able to achieve greater reuse of the services it builds. "In the past, what we were putting together was probably not tremendously reusable," he says. For example, some services didn't make use of the Web Services Description Language (WSDL) specification, which provides a common way to describe services and the format for service requests. The Crossvision components will make it easier to use WSDL and avert some of the steps required to expose a service today.

Revamped software from Software AG, Sonic and other vendors shows the market for more mature SOA products is growing, says Ron Schmelzer, a senior analyst at ZapThink. "We're now at the point where the vendors have consolidated to a certain degree, the different markets have coalesced, and the standards are relatively mature, so the products are becoming more mature."

Among users, SOA is seen as a less risky technology than it was in the past, he adds. Companies are looking beyond simply applying services interfaces to systems and thinking about how to build proper services atop a well-conceived runtime infrastructure. "We're seeing a lot more companies really starting to take a look at planning — planning which services to build and how to build them in a secured, governed, reliable way." ■

San Francisco heads to city Wi-Fi

BY JOHN COX

San Francisco has become the latest major city to take a step toward a municipal Wi-Fi network.

Last week, the city accepted six vendor proposals to build a wireless mesh to blanket the hilly community and provide "universal, affordable" Internet access.

In a statement, San Francisco Mayor Gavin Newsom said that such "access to information is a fundamental government service, akin to libraries or public schools."
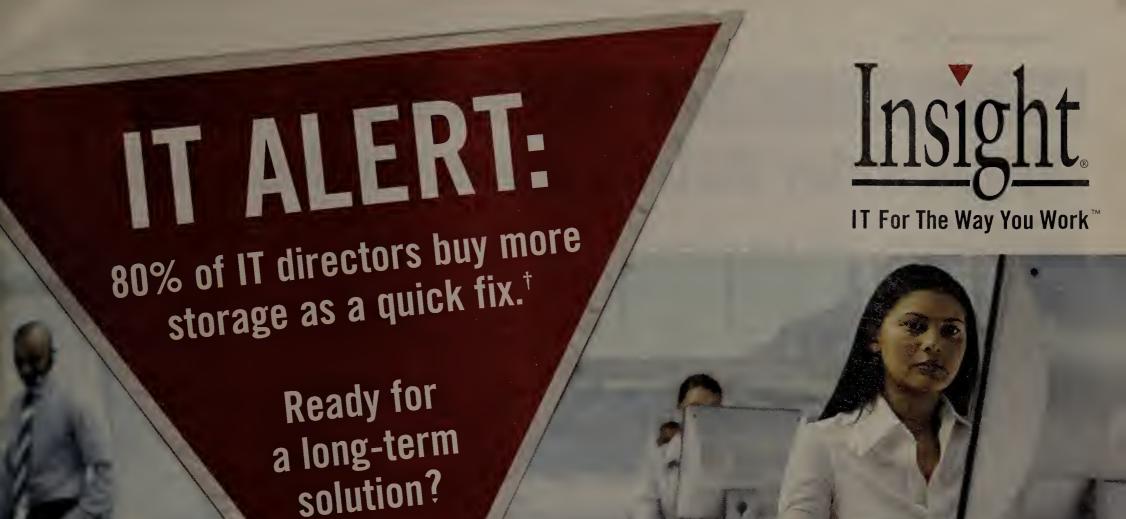
The planned Wi-Fi network is part of the city's TechConnect project, which includes low-cost computer and network hardware, training and other services to spread acceptance and use of broadband access.

The proposals came from Communication Bridge Global; EarthLink and Google; MetroFi; NextWLAN; Razortooth Communications; and SF Metro Connect, which is a joint effort by SeaKay, Cisco and IBM.

EarthLink, which is aggressively pursuing municipal wireless network contracts, announced its partnership last week with Google. EarthLink is interested in fee-based Wi-Fi services; Google earlier had offered to install a city wireless network for Internet access that would be free to city users. Together, the two companies are proposing an advertiser-paid basic Internet service; a higher-speed Internet service would be available for about $20 per month.
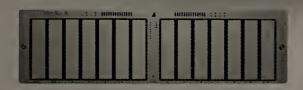
A city review panel will analyze the proposals and make its recommendations in early April. Deployment could begin soon after the city finalizes a contract with the winning bidder.

San Francisco is part of a growing list of municipalities looking to offer public Wi-Fi systems, including Boston, Chicago, Miami, Minneapolis and Philadelphia. ■

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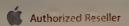
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Vegas water district mixes wireless, maps

BY PHIL HOCHMUTH

How do you measure more than 3,000 miles of water pipes buried in the desert? The Las Vegas Valley Water District looks to the skies for help.

In supplying water to more than 1.5 million people, the LVVWD operates 3,600 miles of pipes and tens of thousands of valves, hydrants, meters and other equipment. To maintain and manage it, the water district uses a database of more than 100,000 digital engineering records and drawings — a document store that grows steadily each year as new construction proliferates in the Las Vegas Valley.

A year ago, the LVVWD began looking at technologies to collect more accurate data from the field, as well as better ways for its employees in the field to use its data center's assets. The new network is a sort of mash-up: It melds cellular, wireless broadband network connectivity, GPS satellite data collection, and geographic information system (GIS) mapping and location tracking technologies. The results are clear: More work completed in less time with no increase in staff.

"There was a three-year backlog that was just piling up" in terms of creating new blueprints, and verifying the accuracy of existing maps and engineering documents, says Jonathan Pickus, manager of the water district's GIS Division.
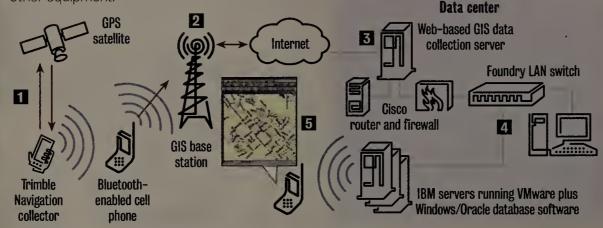
"The whole organization was relying on our data, and it wasn't very good at the time," he says. "We had to figure out a way to automate all of our processes, so that data is put into systems correctly. Our goal was to enter data once, then propagate that to all of our products."

These products include internally developed applications for verifying pipeline blueprints and GIS-based mapping software that lets work crews quickly find exact locations of underground pipes and valves. Paper schematics and rolled-up blueprints are going away.

Field inspectors use Trimble Navigation surveying gear which pinpoints and measures the district's assets via GPS satellites.

Water, water everywhere

The Las Vegas Valley Water District employs a GIS that uses a mix of wireless, Internet and design software to efficiently create precise blueprints and maps of water pipes, pumps, valves and other equipment.

1 Field engineers measure a length of water pipe by recording two coordinates in a GPS-enabled data collection device.

2 A Bluetooth link ties the data collection device to a cell phone, which is used to send the data via IP over the Internet to the LVVWD main office.

3 A Web-based GIS data collection server listens for incoming data from the field, formats the data and uploads it to a Windows/Oracle server in the data center.

4 Maps are generated automatically using the GPS field-collected data in AutoCAD drafting software. A Gigabit Ethernet backbone is used in the data center to support the high-resolution image traffic.

5 More than 70,000 high-resolution maps and schematics are available to engineers in the field with laptops and Bluetooth cell phones. Maps in the Oracle database are accessed via the cellular/IP network.

Data collected is pushed to base stations deployed throughout the Las Vegas area. These devices, each tied down to a fixed location, accept data from collectors and relay measurements back to the main office. Data is sent among the base collectors and base stations on private-band AM/FM radio waves. The water district is also moving some of its base stations to IP/cellular technology that will allow for fewer base station points. Base stations communicate directly to the main office via IP-over-cellular.

To collect the field data, an Apache Web server sits in the district's Internet DMZ, listening for the field base stations on certain ports.

"No data actually sits on this server," Pickus says. "If the server gets compromised, we don't lose any data."

Redlining, minus the red pen

In the past, inspectors working with construction companies would have to verify water-main and piping blueprints by measuring the physical structures in the field, then drawing corrections on a printed map in red pen, or redlining. Often, inspectors had only one chance at measuring and getting the corrections on paper before pipes were buried or sealed behind concrete.

"That takes the inspectors several hours to do, and often there are mistakes," Pickus says. "By the time the pipes are buried, those mistakes get into the database."

Engineers and inspectors in the field now do redlining without drawing a line on paper. The GPS surveying devices measure the distance and locations of pipes, fittings and valves. Three thousand to 4,000 measurements per month are collected and sent to the water district's data center, where data is stored in an Oracle database.

The GIS database also generates as-built documents, which are the official records kept by the district and the county on construction projects. It sometimes took weeks to collect redlined documents from inspectors, reenter the changes into software and print the as-builts, Pickus says. Now CAD engineers generate most of the as-builts automatically in an hour, with some small cleanups.

Large pipes inside the data center and LAN also help engineers and designers work faster. A Gigabit Ethernet network, built on Foundry Networks switches, connects CAD engineers to the GIS database and other servers where large maps, blueprints and other image files are generated and accessed from workstations.

GIS on the road

The LVVWD also is combining its GIS data with its mapping software system, its site-inspection ticket request system and others. The result is similar to popular Web-based mash-ups that combine database, GIS data and mapping software (such as marrying a directory of pizza places with Google Maps).

Most construction projects in the Las Vegas Valley require a call to the water district to ensure that a backhoe blade doesn't cut a water main. Previously, construction companies called into an automated phone system, which generated e-mail messages detailing requests and their locations. District dispatchers printed these e-mails and put them in folders, which were picked up by inspectors who went out to mark up water main locations.

Using Oracle database tools and some of the water district's own code, programmers have written a Java-based application that ties together the e-mail tickets and the master GIS database. Instead of picking up folders of printed e-mails, inspectors use laptops in the field with Verizon EV-DO wireless broadband cards. Over a VPN connection, inspectors access the construction ticket-request application, which shows all of the day's tickets on a map; details of each job are available with a mouse click. Repair crews and other field workers have similar applications for accessing pipe and valve location data along with work-order data in one view.

"This will tell you exactly where to go to find a buried valve," Pickus says.

Pickus says this system let inspectors process 60,000 tickets last year; previously, the same six- to seven-person team was handling around 40,000 tickets per year. ■

Proofpoint gets tougher against spam, viruses

BY CARA GARRETSON

E-mail security vendor Proofpoint is upgrading the core of its gateway software and appliance with additional spam and directory harvest-attack prevention, and is adding a module to help catch viruses during the first few hours of an outbreak.

With Proofpoint Protection Server 4.0 software and the Proofpoint Messaging Security Gateway 4.0 appliance, both slated for release this week, the company is responding to what it says is a significant increase in directory harvest attacks, says Andres Kohn, vice president of product management.

In these attacks, spammers flood a recipient's mail server with messages addressed to made-up e-mail names, to which the mail server will respond saying the e-mail addresses are invalid. When-ever spammers don't receive bounce-back messages, they know the addresses are valid, and they spam away.

Directory harvest attacks also cause spikes in mail flow that can tax mail servers, Kohn says. Version 4.0 helps prevent these attacks by blocking or throttling back messages coming from an IP address that has hit a preset threshold in the number of messages sent to invalid addresses. So if, for example, a sender attempts to send messages to 20 invalid addresses, Proofpoint will block any further attempts to send mail.

One analyst doesn't necessarily agree that directory harvest attacks — or dictionary attacks — are on the rise, but concurs that they can cause headaches and enterprises should look to their anti-spam suppliers to help block them.

"There's a lot of good that comes from having your anti-spam [product] detect dictionary attacks, which can fill up your mail server's hard drive and crash your server," says Daniel Golding, senior analyst at Burton Group.

Other enhancements in Version 4.0 include the ability to detect spam messages written in double-byte languages such as Japanese and Chinese. The new version also blocks e-mails with embedded URLs that are associated with phishing or spyware sites, Kohn says.

In this release, the company has enhanced outbound e-mail scanning features with a quick-inspection view that lets non-technical users quickly check if employees are violating corporate rules or government regulations regarding what can and cannot be e-mailed outside the company.

It also includes customizable smart identifiers that let users scan outbound mail for patterns characteristic of certain types of information, such as 16-digit credit card numbers, Kohn says. Companies can customize this feature to work with information types specific to their company, such as customer account numbers or billing codes, he says.

Proofpoint's Zero-Hour Anti-Virus module, which was announced last fall and is also available this week, aims to protect organizations from malicious code during the crucial period after a virus has been released but before signatures are available, Kohn says.

The module filters incoming e-mail for clues of virus outbreaks, such as a spike of identical e-mails sent with attachments. Suspicious messages are quarantined at the organization's gateway until anti-virus companies release signatures to identify and block them.

These types of zero-hour anti-virus filters are also available from Proofpoint competitors, including IronPort, CipherTrust and Symantec.

Proofpoint Protection Server 4.0 software is priced per module; the anti-spam module starts at $4,000 per year, depending on volume. The Proofpoint Messaging Security Gateway 4.0 appliance starts at $6,750, plus annual user license fees. The new Proofpoint Zero-Hour Anti-Virus module is priced starting at $2,720 per year, depending upon the number of users. ∎

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AirMagnet upgrades WLAN sensors

BY JOHN COX

The latest version of AirMagnet's wireless intrusion-prevention product includes a new breed of radio sensors, and the ability to monitor and identify other kinds of radio activity, not just 802.11 packets.

The changes in AirMagnet Enterprise 7.0 make visible to network administrators a larger chunk of the radio spectrum, including portions for wireless LANs (WLAN), Bluetooth and microwave ovens. The company says this is the first product to combine WLAN packet analysis and radio spectrum monitoring.

The product consists of compact radio sensors that look

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almost identical to standard WLAN access points, as well as server software and a management GUI. The sensors scan and identify radio transmissions, handle some preliminary processing, and feed data back to the server database for analysis and display.

Version 7.0 includes major hardware and software changes.

The new SmartEdge sensors incorporate the capability found in AirMagnet's stand-alone AirMagnet Spectrum Analyzer, a CardBus notebook adapter with software, which analyzes the 2.4GHz to 2.5GHz band, and parts of the 5GHz band. A similar product is available from Cognio. In addition to capturing WLAN packets, the SmartEdge sensors now can collect information on the radio emissions and identify them. (See graphic for other hardware changes, right.)

AirMagnet also is introducing its

first outdoor radio sensor, housed in a water-resistant, rugged container. It can be used to monitor WLANs deployed outdoors, or to extend the area that can be scanned for rogue devices or other wireless threats to an enterprise.

On the software side, administrators now can assign wireless devices in a given area to a group, and then designate what conditions or threats should trigger alarms. In effect, a user marks out a secure area and separately monitors all threats to it.

Another bit of new code lets AirMagnet Enterprise identify a wireless device that may be causing multiple alarms. The software correlates suspect events, groups them and then ranks the overall priority of the threat posed by the offending device. Previously, the GUI showed alarms by broad category, such as "encryption and authentication," and users clicked through selections for specific device details.

Other changes include support for the Oracle database, which now can be used along with Microsoft SQL Server and Microsoft Access as the data repository; and new compliance reports,

Hardware upgrade

Among the changes made by AirMagnet to its wireless LAN sensors:

- Support for Power-over-Ethernet, making deployment simpler because the devices can draw their power from the nearest Ethernet switch.

- Removable antennas, so they can be replaced with specialized antennas that are more sensitive or more focused.

- Doubling the speed of the sensor's Intel IXP processor to 533MHz, and the sensor's RAM to 16MB.

- Plenum-rating, which means the sensors can be installed in spaces used for heating and air conditioning, such as the space above suspended ceilings.

including one for Payment Card Industry Data Security Standard, which governs the security of credit card data.

AirMagnet Enterprise 7.0 is set to ship in March. Prices are unchanged: A starter kit, with four sensors, starts at $9,000. The conventional sensors are priced at $750 each, and the new sensors with spectrum analysis at $2,000. ■

Nortel to reveal spending plans

BY JIM DUFFY

Nortel this week will announce where it plans to spend — and not spend — its $1.9 billion R&D budget for 2006, CEO Mike Zafirovski said.

During a Webcast for investors, analysts and the media, Zafirovski said Nortel is in a rebuilding mode after five years of downsizing by two-thirds, restructuring, restatements and accounting scandals.

"We're probably at ground zero right now," he said on the eve of his first 100 days as Nortel CEO.

> ## "There's a very strong demand for a No. 2."
>
> *Mike Zafirovski, Nortel CEO, on the goal of being an alternative to Cisco.*

Part of that rebuilding includes focusing the company's R&D on areas where Nortel is strong, can gain share and can win, Zafirovski said.

"We tried to be everything to everybody," he said. "We spent enormous amounts of money on R&D but it's not as directed to . . . many of the places where our position today is not as strong as it has to be."

Some of Nortel's growth opportunities, according to Zafirovski, are in Internet Protocol Multimedia Subsystem, WiMAX and IPTV. He also said the company's enterprise operations, thought by some observers to be expendable, would play a bigger role.

"There's very strong demand for a No. 2," he said, referring to the opportunity to be an alternative to Cisco. "There's a real chance for us to do that, including how do you bring enterprise solutions working with our carrier partners."

Separately, Nortel has named George Riedel, former Juniper Networks strategy and business development chief, as its chief strategy officer, which includes business development, and mergers and acquisitions. In addition, Riedel will focus on emerging technologies, market opportunities and strategic partnerships. ■

Symantec to offer security appliance

BY ROBERT MCMILLAN, IDG NEWS SERVICE

Symantec this week is scheduled to roll out a line of its Gateway Security appliances designed for small and midsize businesses.
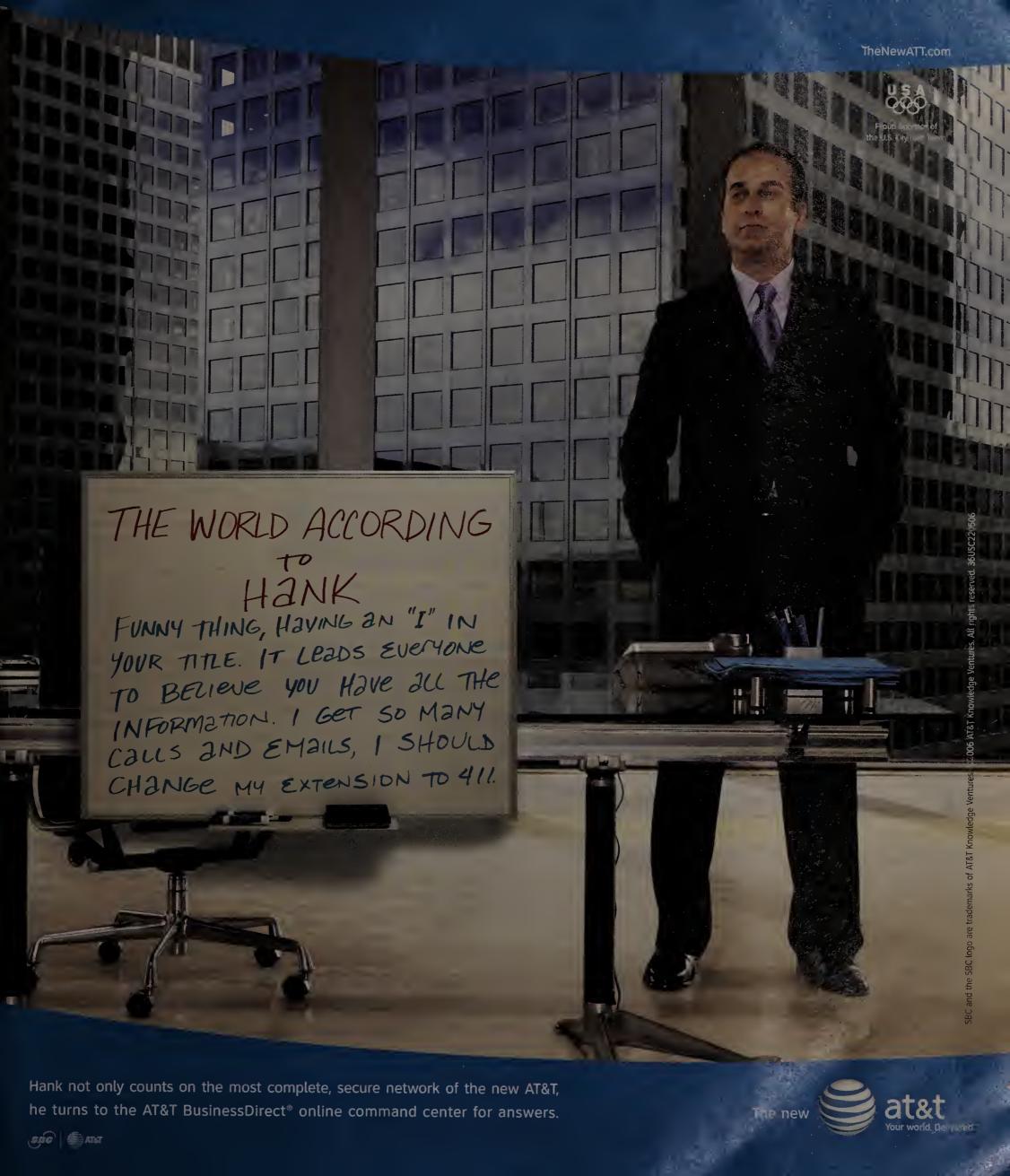
The Symantec Gateway Security 1600 Series products will use the same software as Symantec's enterprise-level 5000 Series appliances but will not have the performance or hardware robustness of their high-end counterparts, says George Sluz, group product manager with Symantec.

The first two models in the product line will be the Gateway Security 1620 and 1660. The 1620 will sell for about $900, with a $500-per-year license fee. It will come with three Ethernet ports and will support network throughput of up to 100Mbps.

The Gateway Security 1660 will support 200Mbps throughput and will ship with five Ethernet ports. It also will include an encryption processor, which will give it five times the VPN performance of the 1620. The 1660 will be priced just less than $2,500 and will cost about $1,500 per year in license fees, Sluz says.

Symantec's appliances are designed to provide an extra level of security for corporate networks by performing network-wide security checks, including firewalling, anti-virus protection, intrusion prevention and detection, and content filtering.

Both of the 1600 series machines also will have anti-spyware and anti-adware features. These capabilities are expected to be added to the 5000 series appliances in April. ■

MSP

has done more than survive over the past few years, but not without making a few changes.

Lyndon Rive, co-founder and vice president of Everdream, says as soon as the company abandoned being a hardware, software and services provider, its business benefited.

"Our full-service offering that addressed the entire life cycle of the PC required a greenfield environment, which meant we had to replace existing hardware, and that didn't work," Rive explains. "Now we are hardware-independent and customers can subscribe to just the services they want, with a flexible licensing model, which puts a lot of them at ease with going with an MSP."

For example, Everdream used to enforce a three-year contract. Now customers can sign on for just one year, which Rive says can cut down a budget's line item from $10,000 to close to $3,000. "It takes the long-term, big-budget commitment down for the customer. It removes a barrier," he says.

With the exception of a few services, Everdream places agents on the machines to be managed. The agents send outbound-only communications to Everdream's data center, and from there customers can choose to have Everdream staff manage their desktop environment or to manage it themselves with Everdream's technology in a hosted-application model. Rive also attributes the company's approximately 250 customers to the nature of desktop management.

"It's such a mundane task that doesn't add any competitive advantage to a company that it's perfect for managed services," Rive says.

InteQ

After signing two major deals — one with Exodus (which later went bankrupt) and one with Compaq (which was acquired by HP) — InteQ had to determine how to endure what its CEO calls "two very unfortunate events" and keep business operations running. Despite having $72 million in venture capital funding by 2001, InteQ needed to adapt to survive.

Santhana Krishnan, CEO of InteQ, says getting his company through the lean years required InteQ to up its service offerings from simple monitoring to in-depth management. About 10 years ago, InteQ emerged as a professional services firm and systems integrator and branched out around 2000 to provide remote management services. InteQ supports a NOC and delivers services to customers via secure VPN connections.

Krishnan says the company reverted to its beginnings, focused on enterprise customers and coupled technology services with best practices. Now InteQ services are interlaced with Information Technology Infrastructure Library best practices. "Our model was that customers maintained control. We didn't claim to do it all," Krishnan says. "Now we manage more than 50 enterprise customers' infrastructure in 20 countries. More customers are outsourcing all of their infrastructure management."

The company has increased revenue by 70% year-over-year for the past three years, Krishnan says, and although it has broadened what it does, more than 70% of InteQ's business remains managed services. InteQ has expanded to support a second service company, InteQ India.

Krishnan says InteQ's history in professional services helped it maintain operations while managed services suffered. "Start-ups five years ago didn't focus on enterprise accounts, which we had already been doing, and they didn't think through how to address anything other than an e-business," he says. "You have to constantly prove that you managing their network is better, that you're reducing events, improving uptime and moving them from reactive firefighting mode."

SilverBack Technologies

When Dan Phillips became CEO of SilverBack Technologies in 2001, he saw the opportunity to adapt its management-software platform into simply software and sell it to other aspiring MSPs. Phillips, who joined SilverBack from management-software maker Concord Communications (now part of CA), says he found SilverBack's core expertise was delivering software, not services. Now SilverBack, which brought in about $38 million in four rounds of venture funding by April 2003, sells its IT network- and security-management software platform to emerging MSPs.

"We got our costs and expenses down early enough to get through some difficult years in the market," Phillips says. "It took years for us to make the transition, but it was a better market approach to become a software company and enable other companies like systems integrators, VARs and MSPs to use our software to deliver their managed services."

With four years of 85% growth year-over-year, Phillips credits the company's 70% customer renewal rate with recent successes. SilverBack doesn't sell its software and run; it works with its 105 partners, or customers, to develop their MSP delivery processes. Phillips dubs this a franchise model and says SilverBack helps each company change its business model to that of an MSP, building pricing models, contracts and even marketing materials.

SilverBack developed its own management-software platform that covers network- and application-monitoring and security-management tasks. Part of its selling point, Phillips says, is that the software supports an architecture that can work on a one-to-many basis, because service providers manage multiple customer networks. The company competes with BMC Software, CA, HP and IBM Tivoli.

Phillips says SilverBack is working to integrate its offerings further with complementary services from companies such as Everdream to win customer dollars from traditional management vendors. "There is an entire ecosystem of managed services that are complementary to our software and can be easily integrated into an overall managed services offering," he says. ■

A brief history of MSP mergers and acquisitions

January 2002
SevenSpace absorbs Nuclio, a provider of network, systems and server administration management services.

December 2004
Sun snaps up SevenSpace, which offers remote application, system, and network device monitoring and management services.

August 2005
MCI buys Totality, a supplier of remote application and infrastructure management services.

2002   2003   2004   2005

September 2004
Cisco buys NetSolve, which delivers remote real-time network performance monitoring with diagnosis and troubleshooting services.

January 2005
MCI acquires NetSec, which offers managed security services, including event correlation and incident management.

The ups and downs of the MSP industry

The managed service provider industry is on an upswing. Today the MSP Alliance has about 250 members, ranging from Avaya, Electronic Data Systems, HP, Intel and Lucent, to Everdream, SilverBack Technologies and other industry founders.

It was only three years ago, however, that one of the alliance's predecessors — the MSP Association — dissolved. That group had launched in 2000 with about 20 founding companies and had boosted its membership to more than 100 companies before its demise.

During the MSP Association's reign, upstarts garnered venture capital funding hand over fist, but the cash didn't help many of them endure. For example, Loudcloud, which received $68 million in one round by 2000, changed its name to Opsware and its business model to automation-software provider (having been an outsourced-hosting vendor). SevenSpace closed a $45 million second-round funding deal in 2001 and shortly after joined forces with competitors StrataSource and Nuclio, only to get acquired by Sun in 2004.

Start-ups that invested their venture capital dollars in flashy, showcase network operations centers and cobbled together management tools or depended too much on dot-com customers for revenue "died on the vine," says Jeff Kaplan, managing director at ThinkStrategies. "The MSP market first suffered from exaggerated hype, then it was ahead of the customer acceptance of out-tasking IT management."

Established vendors from network equipment makers to server giants to carriers saw the potential for the managed offerings and rolled them into their larger product portfolios, partly validating and partly decimating the market. Ovum Research predicted the market for MSP-type services would reach $15 billion by 2006 but foresaw that larger outsourcing vendors such as EDS IBM Global Services and others would win the lion's share of customer dollars.

— **Denise Dubie**

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Questions about application acceleration?
Curious about the different approaches to speeding up your applications? We've invited Cisco, Citrix, Packeteer and Silver Peak to discuss their approaches. They'll be online the week of Feb. 27 to answer your questions — and we'll have a library of links to related papers. Send your WAN acceleration questions to agaffin@nww.com, and the vendors will start working on answers.
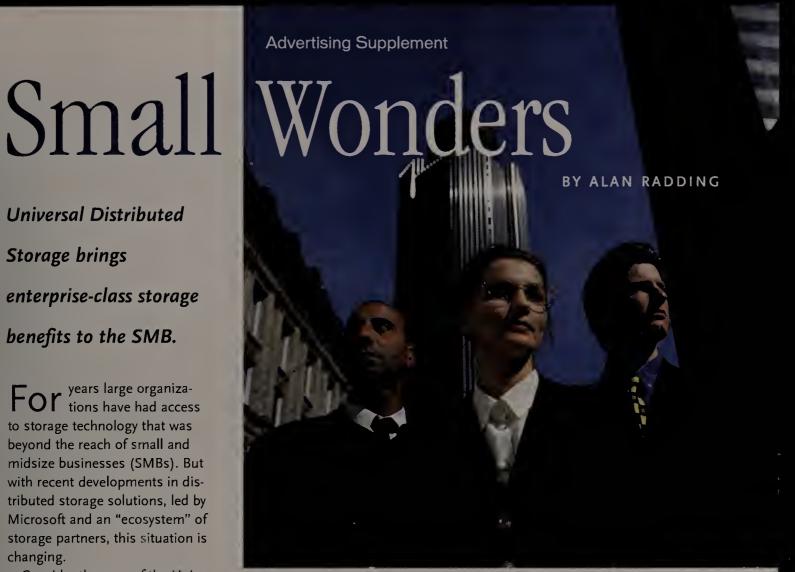
Small Wonders

BY ALAN RADDING

Universal Distributed Storage brings enterprise-class storage benefits to the SMB.

For years large organizations have had access to storage technology that was beyond the reach of small and midsize businesses (SMBs). But with recent developments in distributed storage solutions, led by Microsoft and an "ecosystem" of storage partners, this situation is changing.

Consider the case of the University of Portland in Portland, Ore., a successful midsize organization. Until last January its managers were scrambling to keep up with growth. And like most midsize organizations, the managers lacked the kind of resources available to large organizations. This was particularly the case when it came to storage and information management.

Even getting simple management information proved difficult. "It was hard to know how much storage capacity we were using. We couldn't answer basic questions about the use of our systems," recalled Bryon Fessler, the school's vice president for information services. How could the school manage its IT infrastructure following the best practices of large, successful organizations if its managers couldn't even get the most basic information?

The backup situation was even worse. "It was difficult to do backups. We had to back up to multiple tapes. We had to back up the servers in groups. Sometimes a group was overlooked," Fessler said. It was a catastrophe just waiting to happen, but luckily the school never had an emergency that required it to recover all of its backed up data fast.

Storage with a pedigree

HP offers ease of use and a clear path to Exchange 2003 migration.

When it comes to helping companies get the maximum value from their technology investments, the two-decade collaboration between HP and Microsoft continues to deliver what users want. As the leading systems integrator for Microsoft Exchange, HP has a legacy of architecting Exchange solutions that address some of the toughest business challenges. In fact, Microsoft chose HP StorageWorks Enterprise Virtual Arrays and HP ProLiant Servers as the platforms on which to run its own Exchange infrastructure. For small to midsize organizations with limited IT resources, HP offers a proven methodology for consolidating costly, multi-server Exchange environments on a money-saving, single-server SAN.

It is HP's highly touted ease of installation and SAN technology that attracted St. Mary and All Angels School in Aliso Viejo, Calif., to the HP StorageWorks Modular Storage Array SAN solution. Said Michael Magaldi, St. Mary's director of technology, "[The SAN] was so easy to install that it took us longer to unpack the SAN from the box than it took to actually install it."

hp invent

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Reversal in fortunes

Today, the situation is completely different at the university. Working from a strategic plan the school developed late in 2004 as a catalyst, the information services group embarked on an initiative to upgrade its IT infrastructure and adopt best practices. By January 2005, it had installed clean, reliable, uninterruptible power; upgraded to Hewlett-Packard (HP) blade servers running Windows; and installed its first storage area network (SAN), which it acquired from LeftHand Networks.

In the process, the school gained many of the advanced storage management features that large organizations had been using for years to maximize their storage and systems investments and protect their valuable, critical data assets. Now the school can make frequent, fast copies (snapshots) of critical data to ensure the data can always be recovered quickly. It also can send copies of the data over the wide area network to a secure offsite location. "That lets us get out of the tape

backup business for our critical data," which is a great relief, Fessler said.

Adding to Fessler's relief, the school's lead vendors in this

effort, LeftHand Networks and HP, turned out to be partners with Microsoft. "That LeftHand Networks was partnering with Microsoft was important to us. We

The power of many

With the UDS vision, Microsoft has focused on its core strength—software—while relying on leading storage industry vendors to provide storage-specific products built on the Windows platform. Some of Microsoft's leading storage partners include Brocade, Emulex, EqualLogic, Hewlett-Packard, Hitachi Data Systems, LeftHand Networks, NSI Software, and QLogic. These partners are collaborating with Microsoft to advance SAN simplification for users of Windows Server 2003 R2 by ensuring interoperability with the storage capabilities built into the Windows platform. Microsoft is working with storage system vendors to simplify hardware setup under the UDS banner.

"Microsoft has done a great job from the operating

system standpoint by providing integration

points. We can now enable features Microsoft makes available in specific products knowing they will work correctly," said Ralph Lobato, HP's Microsoft alliance manager for StorageWorks.

"UDS is a guiding vision that provides a framework for managing distributed data. It is about how Microsoft as a platform can manage all data. The SAN is just one element. Our role is to ease the management, to ease the configuration, to ease replication. We simplify the interface," according to an Emulex spokesperson.

use a lot of Microsoft technology," he said. The fact that his primary storage and server vendors were working closely with Microsoft in a strategic vision now called Universal Distributed Storage (UDS) gave him added assurance that the technology decisions they had made were correct and would continue to be the best choices going forward. And the school could do it at a price—$50,000 for 8TB of storage—that a midsize organization like the University of Portland could handle.

Advanced storage for the smaller businesses

In other words, smaller organizations can now reap the benefits from high-end storage solutions formerly reserved for enterprise-class companies. Within the enterprise, IT managers first bought advanced storage arrays and set

> "Networked storage enables SMBs to have all the benefits large enterprises get."
>
> —Steve Duplessie, Senior Analyst, Enterprise Strategy Group

them up as Fibre Channel (FC) SANs, which, although complicated to install and run, allowed for multiple servers to share a common pool of centrally managed storage. The high-end enterprise storage arrays they purchased were packed with sophisticated management software that allowed the companies to replicate data over the network, set up redundant paths between the servers and storage to ensure high availability, and make frequent copies of the data, which made it easy to quickly recover data that

had been inadvertently corrupted or deleted.

In addition, the advanced storage management software made it easy for an administrator to monitor and manage all the storage in the environment from a single location. An administrator could perform consolidated backups, add and configure new storage capacity quickly and easily, allocate and re-allocate storage capacity as needed, and generate reports detailing all aspects of storage usage.

These capabilities didn't come cheaply. However, large enterprises could justify the big expense on the basis of increased efficiency, improved performance, higher availability, greater storage utilization, and substantial reductions in administrative costs, especially when it came to backup. For example, instead of making multiple backups as the University of Portland faced, the large enterprise initiated a single backup process. And the administrators immediately knew not only whether the data was correctly backed up but, unlike Fessler, they knew all the details of storage usage.

SMBs, meanwhile, struggled with storage directly attached to each server. Directly attached storage certainly was low-cost, and it was easy to set up and configure initially. However, as soon as the organization needed more than a handful of servers, each with its own attached storage, administration and management became a costly headache. In addition, utilization of the storage capacity was poor.

Networked storage will allow [SMBs] to reduce the amount of time and resources they expend trying to manage multiple servers with directly attached storage.

While some servers desperately needed more storage, other servers sat underutilized with storage to spare, and there was no practical way to make the excess, idle capacity on one server available to another server that needed it.

Enterprise-class storage requirements

The storage capabilities enjoyed by large enterprises looked mighty tempting to SMBs. In fact, "the needs for networked storage are probably more necessary in the SMB space," said Steve Duplessie, a senior analyst at Enterprise Strategy Group, Milford, Mass. This is particularly true given the nature of SMBs' storage usage. "SMBs are the fastest growing in terms of the percent of storage capacity growth," Duplessie said. As importantly, the data an SMB stores is as critical to that organization as, say, a large brokerage's data is to the brokerage firm. Neither can survive for long without its data.

"SMBs undoubtedly need networked storage for data protection and for efficiency. Their needs are no different in this regard than large enterprises. They also face the same compliance requirements for data protection," said Rob Higby, director of product marketing at EqualLogic Inc., Nashua, N.H.

The data backup issue alone is driving SMBs to networked storage. "From a data protection perspective, SMBs need this. They can't risk losing data. They have to track it, and it is growing exponentially," said Bob Roudebush, product manager at NSI Software, in the Southborough, Mass., office. Regulatory compliance and litigation concerns affect every organization, large and small. Even the smallest SMBs are under the gun to store and protect personal information, financial data, and even email, which increasingly plays a role in litigation.

High needs, modest budgets

Although their storage needs parallel those of large enterprises, SMBs are different in a number of ways. "SMBs have similar needs in terms of data retention, security, legal and compliance issues, and reporting, but there is a difference in scale," said Peter Smails, senior director of product marketing at Hitachi Data Systems Corp., headquartered in Santa Clara, Calif. "The difference in scale shows up in how SMBs handle the challenges of management and complexity. They can't just throw money into the building of a complex SAN." Said Enterprise Strategy Group's Duplessie, "SMBs need to be able to grow their storage at a moment's notice, and without causing application downtime. Networked stor-

age enables SMBs to have all the benefits large enterprises get."

SMBs may need the kind of storage large enterprises enjoy, but acquiring networked storage has been difficult. "They need to do it without it costing a fortune and without their needing a Ph.D. to plug the stuff in," Duplessie continued. In other words, high cost and complexity have prevented SMBs from implementing networked storage. They don't have the fat storage budget or the cadre of highly skilled storage experts to make it all work as large enterprises do.

Technical skills may be as big a challenge as the cost of networked storage. "SMBs don't have the staff that can do this. They need a turnkey solution they can take out of the box, turn on, and configure in minutes," said Ralph Lobato, HP's Microsoft alliance manager

The business value of simpler SAN

SANs deliver attractive benefits to SMBs, but for too long those benefits have been beyond their reach because of the difficulty of implementing a SAN. With iSCSI, the storage industry made strides in easing SAN implementation by using the IP networking protocol, which is familiar to SMBs. However, FC remains the dominant SAN networking protocol due to its high performance and high reliability. Unfortunately, traditional FC implementation requires specialized skills, which are lacking at most SMBs.

To specifically address the SAN challenge, Microsoft initiated the Simple SAN for Windows Server Program under the Universal Distributed Storage vision. "With Simple SAN Microsoft has identified over 100 com-

plex items that make implementing a SAN difficult. We've incorporated these items in a GUI that makes the SAN easy to install," said Tim Lustig, senior business alliance manager at QLogic Corp., Aliso Viejo, Calif.

In an effort to further simplify SAN implementation, Microsoft built support for SANs directly into the Windows platform. Storage vendors take advantage of this built-in support so SMBs don't have to bother with the internal details. Microsoft also has worked directly with core SAN component vendors like Emulex Corp., Costa Mesa, Calif., to reduce SAN setup complexity. Finally, it steers customers to those products that have proven to be simple to implement through its Simple SAN for Windows Server Program.

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There are two keys to understanding

how Microsoft envisions UDS:

universal and distributed.

for StorageWorks. And after they have installed the storage in minutes rather than days, SMBs need to be able to maintain it easily, without the involvement of storage experts.

Taming networking concerns

If storage itself weren't difficult enough for SMBs, networked storage adds another complication—the network. Although most SMBs have simple local area networks, storage often requires a separate network based on the FC protocol, which requires specialized skills. Switches, too, present a challenge. "SMBs need relief from having to manage switches. They want something they can turn on and forget," said Brian Hoke, liaison with Microsoft for storage technologies for Brocade Communications Systems, Inc., San Jose, Calif.

The SMBs' lack of awareness of networked storage and the benefits it could bring may hold them back. "Many SMB managers simply are not aware of how much networked storage can help them," Hoke continued. Networked storage will allow them to reduce the amount of time and resources they expend trying to manage multiple servers with directly attached storage. They will experience higher storage utilization and reduce the amount of storage capacity that never gets used. Similarly, they will experience streamlined, more reliable backups and higher availability of their data. They also can be confident that their sys-

tems will be able to comply with regulatory mandates to save and protect data as well as respond efficiently to requests by regulators and courts for stored data.

As the organization grows, it will be able to easily increase its storage. "Adding on to network storage can be very easy, which eliminates down time and frees the staff to do other things," Duplessie said. If networked storage is good for large enterprises, it certainly can be good for SMBs, too. To get there, all SMBs need is

to find a storage solution that addresses the challenges of cost and difficulty.

UDS—enabling networked storage for SMBs

"Until recently, it wasn't feasible to bring networked storage into the SMB space due to the problems of cost, complexity, and skills," Duplessie said. Now, however, it is feasible.

Storage technology has steadily evolved, getting less costly and easier to use every year. But even then, few SMBs on their own are likely to pull together the disparate pieces to make a complete networked storage solution. It requires a catalyst, and that turned out to be Microsoft. "It is because of Microsoft that SMBs will be able to do networked storage. Microsoft makes things cheap and

easy as compared to the expensive, complicated status quo. And Microsoft, because of its market muscle, can also get the other vendors to play nice. SMBs really benefit when Microsoft pulls out the stick," Duplessie explained.

Behind the stick is Microsoft's Universal Distributed Storage vision. UDS is intended to mainstream high-end functionality for the purpose of delivering storage solutions built on industry-standard hardware offered through multiple independent partners. One resulting goal is to lower the total cost of storage ownership. To do this, Microsoft has enhanced Windows itself to ensure that it manages distributed data storage more cost-effectively than any other platform, irrespective of whether the data sits on a server or a remote worker's desktop; whether the data is centralized or spread across branch offices; or whether the data is stored on a SAN or network-attached storage (NAS).

There are two keys to understanding how Microsoft envisions UDS: universal and distributed. "To us, universal means making sure the storage is universally available to any organization, large or small, using similar technology differentiated only by the nature of the organization," said David Golds, product unit manager for Microsoft's Windows Core File and Storage Systems.

The distributed part of Microsoft's UDS vision revolves around storage replication. "It is about seeing storage as a distributed system," Golds said. When storage is viewed as a distributed system, Golds explained, it is treated as a file service rather than as a file server. Traditionally, storage was accessed through a file server, which meant that the user had to know on which server the data resided. As a file service, the data can reside anywhere or be replicated to multiple places. The users don't need to know or care where the data resides; the system will bring the data to them from the right place.

Windows at work

Microsoft has been steadily implementing the UDS vision in a series of products included in the Windows platform. For example, in the latest release, Windows Server 2003 R2, Microsoft included Storage Manager for SANs, which is a sophisticated storage management tool for SMBs.

Storage Manager for SANs "is intentionally not a full-featured SAN management tool. It is designed to address only those classes of problems that SMBs face," Golds said. For example, it allows organizations to provision their storage very easily, but it doesn't do SAN zoning, which is a complicated process. "The majority of SMBs don't need zoning," Golds said. Rather than make the product unnecessarily complicated, Microsoft will steer those few SMBs needing zoning to one of its partners who provide complex SAN management tools.

In addition to Storage Manager for SANs, Windows Server 2003 R2, an update release of the Windows Server 2003 operating system, takes advantage of Windows Server 2003 with Service Pack 1 (SP1) to deliver greater stability and increased security resulting from its proven code base. For example, it provides improved identity and access management across security-related boundaries through Active Directory Federation Services (ADFS), which lowers the total cost of ownership (TCO) and boosts security, espe-

cially when collaborating with partners or deploying Internet-facing Web applications.

In other areas, Microsoft and its partners deliver sophisticated capabilities comparable to the high-priced large enterprise features provided by traditional storage vendors. Microsoft's Volume Shadow Copy Service (VSS), for example, lets SMBs make snapshots of data, replicate data, and manage those copies just as buyers of the more costly products do. VSS is a powerful capability yet simple to use. "You can make shadow copies during the day. At some point you may need to go back to an older version of the data. So, you just right-click on the folder and see a list of previous versions," Golds said. In the past, this kind of capability was quite expensive. Today, it is included in Windows Server 2003.

R2 enhances Windows' replication capabilities by providing replication to multiple remote sites over the WAN, and it does so in a way that fits with the SMB's budget and resource constraints. For example, Golds said, "You can synchronize files over the network, but you are only sending the pieces that have changed, not the whole file or document." Sending only what has changed saves the organization time and bandwidth. This improved replication in R2 not only saves bandwidth but also removes the need for backup in branch offices.

Integrated and compatible
"What the UDS vision has ushered in is an order-of-magnitude improvement for SMBs from two years ago," said Karl Chen, vice president of marketing and business development at LeftHand Networks Inc., Boulder, Colo. In addition to packing advanced features like VSS, Virtual Disk Service

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(VDS), and multipathing (via the Multipath I/O technology, or MPIO) for high availability into Windows, "Microsoft has integrated storage technology right into the operating system, making it available and compatible. It eliminates any integration and compatibility issues. That allows us to build complementary technology that takes full advantage of the capabilities Microsoft has built into the operating system," he continued.

The kind of simplicity the UDS vision brings to networked storage can pay off big. St. Mary and All Angels School, Aliso Viejo, Calif., discovered the benefits of SANs when the school's students became heavily involved in storage-intensive rich media, which has become integral to the learning experience. The increased storage demands forced the school to make the transition from multiple servers with directly attached storage to a multiterabyte FC SAN from HP, a transition it could not have made the old way.

"We are understaffed, and we should have at least one MCSE [Microsoft Certified Systems Engineer], but even without an MCSE, implementing a SAN is a lot easier," said Michael Magaldi, director of technology. And the SAN itself has made a big difference. "Without the SAN we couldn't provide the level of service to the students that we do. The SAN lets us do much more without taking a lot of our time," he said.

Two years ago networked storage would have been beyond the reach of an SMB like St. Mary's. Today, with Microsoft's leadership and its rich partner ecosystem, any organization can take advantage of advanced, networked storage.

Alan Radding is a freelance technology writer in Newton, Mass.

Mike installed a SAN today. During recess.

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Short Takes

■ **F5 Networks** is upgrading its WANJet traffic optimization appliance to help speed up remote file access over a WAN link. The device, which sits in remote offices and in corporate data centers, can now accelerate access to Common Internet File System files, Microsoft's commonly used format for network file sharing. Version 4.0 of WANJet could help users in offices with centralized file servers retrieve and edit documents faster, F5 says. Experts say the devices could be used to replace file servers in branch offices as a way to speed backup of remote data. The new version of the appliance is expected to be available next month. Pricing starts at $1,795 per appliance.

■ **Alcatel** last week said it will partner with **IBM** to let the companies offer Alcatel's Internet-based telephony software along with IBM's BladeCenter range of servers. The deal is aimed at providing customers with a single IT and telecom infrastructure, and will include Alcatel's OmniPCX, OmniVista and OmniTouch software packages, coupled with IBM BladeCenter servers. Financial terms of both agreements were not disclosed.

■ Two recently released reports from the Dell'Oro Group have good news and bad news for **Cisco;** while one report shows the vendor maintained a strong lead in the carrier router market, another says Cisco is facing challenges in the IP PBX market. Dell'Oro says Cisco grew its lead in carrier routers in 2005 over rival Juniper, while the market overall reached $4.4 billion — matching a previous levels at the height of the dot-com boom in 2000. But in IP PBXs, one of Cisco's six "Advanced Technologies," Cisco was recently edged out of the top spot by Nortel, Dell'Oro says. For the forth quarter of 2005, Nortel sold more IP PBX lines — extensions on a PBX that are IP capable — than Cisco, followed by Avaya, which came in third. Overall, Dell'Oro says IP PBX line sales grew 42% in the fourth quarter over the same time period a year ago, while TDM voice line sales decreased 2%.

InSite: Lessons from Leading Users

Airport saturates locale with wireless nets

BY JOHN COX

Atlanta's airport is now saturated with wireless connectivity, serving travelers and employees.

In January, Hartsfield-Jackson Atlanta International, one of the busiest airports in the nation, threw the switch on the second of two wireless networks that blanket all concourses and gates. The system uses fiber, shielded coaxial cable and hardware from LCG Wireless to distribute cellular signals from carrier base stations to ceiling-mounted antennas throughout the airport.

The cell coverage complements an airport-wide public wireless LAN (WLAN), which went live last October.

"We needed an infrastructure to support voice, video and data services throughout the entire airport, both wired and wireless," says Lance Lyttle, the airport's CIO. Users include travelers, airport tenants such as airlines, concessions, and airport employees.

The solution was to create two neutral host systems. The airport acts as a landlord, building and maintaining both networks, which can be used by several carriers or service providers.

Every nook and cranny

The idea behind distributed antenna systems (DAS), such as that of LCG Wireless, is to bring high-quality cell signals to every nook and cranny of large structures. For Hartsfield, that means covering nearly 6 million square feet. Today, Cingular, MetroPCS, T-Mobile and Verizon offer voice and data service over this DAS infrastructure. Some have begun to deploy advanced 3G services over the system.

The carriers installed their base stations at an airport site dubbed the telcom hotel. There, the radios are plugged into LCG's Main Hub, which converts the radio energy into an optical signal. That signal runs through a fiber web to remote hubs, which convert the signal back into radio frequency energy. Shielded coaxial cable carries the signal from a hub to several remote access units, which are like access points for cellular, mounted in the ceiling to cover a specific area.

The deployment was straightforward and smooth, says Daver Malik, wireless voice engineer for the airport's IT group. Technically, the main challenge was making sure the cell signals, covering differ-

ent parts of the spectrum, didn't interfere with each other, Malik says. LCG's architecture minimizes the impact if any DAS component fails, and the blades in the Main Hub can be quickly replaced if necessary, Malik says.
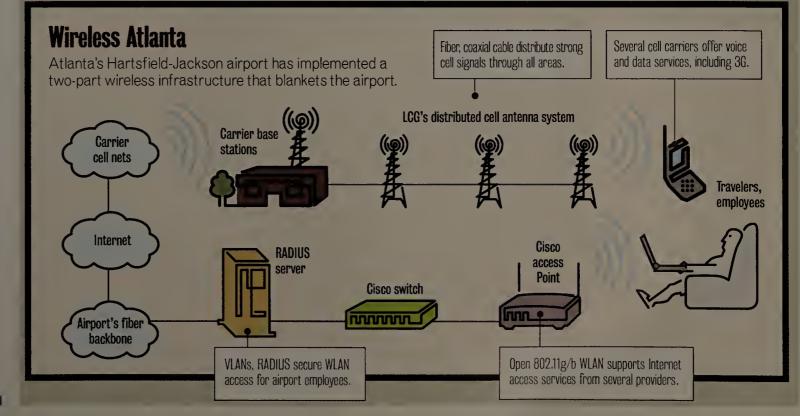
The DAS infrastructure also will be used by city, state and federal public safety staff and emergency responders. The 851-869MHz band is reserved for this use, so emergency crews can sidestep the public cellular bands.

Pervasive wireless LAN

The WLAN also was straightforward, though it entailed laying a lot of new Ethernet cable. The cabling connects 151 Cisco 1230 802.11b/g access points to Cisco 2000 and 3000 switches, says Dennis Rose, the airport's technical services manager.

Following Cisco's acquisition last year of Airespace, which helped pioneer the use of WLAN switches or controllers, the airport IT staff launched a redesign of the WLAN. A controller-based architecture creates a central point for securing and managing large WLANs.

Next month, Rose's team will start

Wireless Atlanta

Atlanta's Hartsfield-Jackson airport has implemented a two-part wireless infrastructure that blankets the airport.

Fiber, coaxial cable distribute strong cell signals through all areas.

Several cell carriers offer voice and data services, including 3G.

LCG's distributed cell antenna system

Carrier cell nets

Carrier base stations

Travelers, employees

Internet

RADIUS server

Cisco access Point

Cisco switch

Airport's fiber backbone

VLANs, RADIUS secure WLAN access for airport employees.

Open 802.11g/b WLAN supports Internet access services from several providers.

Extreme scales up metropolitan Ethernet

BY PHIL HOCHMUTH

Extreme Networks is readying a large-enterprise Ethernet switch aimed at tying together businesses with advanced Layer 2 VPN services, as well as consumers with high-bandwidth offerings such as IP TV.

Extreme says its BlackDiamond 12K switch uses new programmable network processors and ASICs to divide Ethernet pipes into virtual LAN (VLAN) segments, and provide as many as eight levels of traffic QoS for as many as 80,000 users attached to a single switch.

The BlackDiamond 12K chassis has four module slots (not counting redundant management modules), which can house 20-port Gigabit Ethernet blades, or two-port 10G Ethernet modules. The Gigabit Ethernet module includes fiber and copper ports, letting users deploy as many as 20 ports with a mix of wiring. (The dual-port 10G blade is fiber-only). The switch runs Version 11.4 of the vendors Extreme-XOS switch software, which is based on a Unix/Linux-like operating system kernel, letting services and features be turned off and on and configured without requiring the device to reboot.

The modules include new network silicon and processors that greatly boost the number of VLAN segments and individual traffic flows the switch can support.

Previous Extreme switches could support individual QoS traffic settings for about 2,000 users attached to a line card.

To scale Layer 2 VPN connections, the BlackDiamond 12K modules also use an emerging IEEE standard for encapsulating media access control (MAC) addresses of user connections inside large Ethernet frames, used for carrying traffic over a backbone. This pending 802.1ah standard, known as MAC-in-MAC, lets the number of VLANs a switch can support scale exponentially from 4,000 to 16 million. (Carriers typically run individual customers' traffic as VLANs — letting the traffic be segmented from other users — to measure and monitor performance, and for billing purposes).
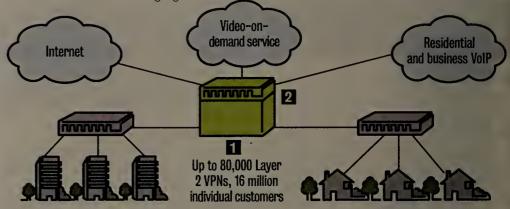
For carriers and large businesses looking to deploy large, Layer 2, or flat, networks, the BlackDiamond 12K might be helpful, one analyst says.

"It's basically managing Ethernet in a more leased-line way," says John Mazur, research director for Gartner. "I think this capability will apply to both [carriers] and carrier-class enterprises that prefer do-it-yourself networking, with their own dark fiber and network backbones."

To this end, the BlackDiamond 12K also supports Extreme's Ethernet Automatic Protection Switching, which

Ethernet aggregation

Extreme's BlackDiamond 12K is aimed at tying together large numbers of Ethernet links and bridging end customers to service networks.

Up to 80,000 Layer 2 VPNs, 16 million individual customers

1 By embedding an extra MAC address field into an Ethernet frame, Extreme says it can increase exponentially the number of Layer 2 VPNs and individual users it can support.

2 Support for more Layer 2 VPNs lets the BlackDiamond 12K connect to other carrier networks with non-routed Ethernet links, which are less expensive and simpler to administer than routed connections, Extreme says.

lets Ethernet switches be deployed in a redundant ring, as opposed to a traditional start topology. This provides failover of 50 millisec in case of a link failure, vs. the 1 to 30 seconds it can take standard Layer 2 Ethernet to redirect traffic around a downed link.

Providers of metropolitan Ethernet ser-

vices, such as Yipes Enterprise Services, say the BlackDiamond 12K will be useful in creating large-scale backhaul connections among carriers using simple Ethernet, as opposed to more expensive technologies such as ATM, or routed IP links.

The BlackDiamond 12K starts at $60,000 and will be available next month. ■

Airport

downloading new Cisco code to the existing access points so they can communicate with the Cisco controllers to be installed in the data center.

Today, four Wi-Fi Internet providers offer service to Hartsfield passengers over the WLAN: Access Anyplace, Boingo, Concourse and Sprint.

Employees jump on the WLAN whenever they need to. But the airport requires not only a valid user name and password, but also a registered media access control address, before the employee is granted access. A Cisco RADIUS server handles authentication for the WLAN, and then hands off authentication information to the corporate RADIUS server so WLAN users can access services on the backbone.

Airport laptops have Verizon cellular AirCards so that users can make a data connection, over a virtual private network, if they're beyond the range of the airport's WLAN.

Passengers logging on to the WLAN are segregated on a separate virtual LAN. Some of the passengers access the Internet via the WLAN home page. But subscribers to one of the airport's Wi-Fi providers can launch their own provider's client application, bypassing the airport Web page.

Rose's team relies on AirDefense's AirDefense Enterprise software and radio-frequency sensors to monitor the WLAN frequencies, detect unauthorized radios and block them.

Administrators see from one to 10 deliberate attacks daily, usually travelers that have equipped a wireless laptop with sniffer software for probing WLANs. "We can notice these with the AirDefense software, but they're not affecting our network," Rose says.

The WLAN and the distributed antenna system are designed to host multiple service providers. And for both systems, the most complex issues were about accommodating the differing business models and service plans of the airport's various carriers and providers. ■

Wireless bridges offer net options

BY JOHN COX

Orthogon Systems has introduced new versions of its software-defined wireless bridges, along with new converters that let customers blend Ethernet and TDM traffic over a wireless link.

Together, the new products will let corporations extend Ethernet networks and bundle T-1 and E-1 traffic on high-throughput wireless links, quickly connecting campus buildings, or a remote site such as a back-up data center, without the need for fiber or leased lines.

Like the existing 5.8GHz products, the new 5.4GHz radios deliver an aggregate capacity of 43Mbps (one-way capacity is about half of that). But with twice the spectrum of 5.8GHz, the 5.4GHz band will let radios be more densely clustered in a given area without interference. More of the 5.4GHz band is being made available for unlicensed use around the world, and Orthogon officials expect the United States to follow suit later this year.

Among other things, the increased spectrum means the bridges can run in a band with less interference. The bridges typically span distances up to 30 miles, but with 200 to 300 towers can reach 124 miles, Orthogon says.

The OS-Gemini Integrated is a wireless bridge with built-in antennas. The OS-Gemini Connectorized is the same bridge with connectors for high-gain external antennas. Both offer the maximum 43Mbps throughput. Orthogon also offers OS-

Gemini Lite versions of both; these lower-priced models have aggregate bandwidth of 22Mbps.

Orthogon radios use a variant of multiple-input multiple-output, which it calls multibeam space time coding, says Robert Baker, vice president of product management for Orthogon, with a U.S. office in Waltham, Mass.

Each radio makes use of multiple transmitters and receivers, which can collect the reflections that are always a part of radio transmissions and recombine them to optimize throughput. "It lets us combat signal fading for both line-of-sight and non-line-of-sight links, even over difficult terrain," Baker says.

For high-security applications, Orthogon's OS-Gemini radios can run with an optional encryption scheme that's based on the 128-bit Advanced Encryption Standard.

The new converter product, called OS-MUX, can multiplex two or four T1-E1 ports, plus Ethernet, and then send it over wireless bridges. OS-MUX can prioritize TDM traffic, using the IEEE 802.1p&Q QoS standards.

Founded in Britain in 2000, Orthogon has $30 million in venture fund backing. Rivals in the unlicensed wireless bridge market include Redline.

Pricing for the Orthogon OS-Gemini starts at $11,995; OS-Gemini Lite starts at $7,200. OS-MUX, available for both the 5.4GHz and 5.8GHz products, starts at $9,705. ■

Realizing a Dream Data Center Design

Using Force10 high-density switch/routers, Veritas' IT team was able to implement the simple, scalable design they desired.

Processing volumes of data better, faster and cheaper is at the heart of Veritas DGC's value proposition to its customers — making IT strategic to the company's competitiveness. So when it came time to upgrade its computing clusters from Fast Ethernet to Gigabit Ethernet (GbE) connections (one of several cluster interconnect technologies used), the IT team knew it had an opportunity to design a network core that could help the company reduce data center costs and hone its competitive edge for years to come.

Veritas' Global Processing Facility in its Houston Headquarters effectively manages the extreme compute demands of today's most advanced geophysical processing.

Veritas, headquartered in Houston, Texas, is a leading provider of integrated geophysical information and services to the petroleum industry worldwide. Among its services are seismic survey planning and design, seismic data acquisition, and the processing, visualization, and archiving of 3D and 2D data.

Due to the enormous amount of processing capacity and network bandwidth required to manipulate such complex data, Veritas' IT infrastructure is key to its ability to generate revenue. Making that infrastructure ever more efficient is a challenge for IT. "We have to be able to drive down our costs so we can reduce costs to customers," notes Phil Gaskell, Veritas' Global Network Manager. "If we can deploy a network for $3 million as opposed to $5 million, we can deliver a more cost effective solution and improve our bottom line."

When IT staff brainstormed about what the ideal data processing facility design would be, it became clear they wanted fewer layers in the network. "That was our dream design — everything taken away, with a big chuffing switch with lots of ports at the core," says Doug Northrup, Veritas' Houston Manager of

Networks. Force10 Networks was the only vendor that could deliver a switch/router with the port density and resiliency Veritas needed, according to Northrup.

Realizing the Dream Core

The initial challenge facing the IT team was to scale the network core in each data processing center to accommodate large numbers of GbE interfaces. But the team also wanted a network design that was flexible and scalable enough to accommodate new technologies and traffic flows down the line. Lacking a very high density core device, other networking vendors proposed designs that required numerous inter-switch links. And IT would have had to build resiliency into the network through redundant devices, links and other mechanisms.

"That design would have cut down on the infrastructure's scalability and increased the cost and complexity," Northrup says. "You end up using more ports to connect switches together than you do for connecting systems to switches. And instead of a non-blocking core, you have to implement an oversubscribed core."

In contrast, Force10's E-Series 1200 switch/router scales up to 1260 GbE or 224 10 GbE ports per chassis and features a non-blocking switch fabric. The E1200 has allowed Veritas to eliminate an aggregation layer from its network architecture, reducing overall network cost as well as latency. "Don't aggregate unless you have to," Gaskell advises. "It adds costs and inefficiencies."

In addition to high port density, resiliency is built into the E1200. All E-Series devices have fully redundant components, ensuring hitless failover with no packet loss in the event a component fails. The E-Series also has a fully distributed architecture with independent processors for switching, routing, and

management, which allows faults to be contained. Because resiliency is inherent in the E1200, Veritas' IT team didn't have to build these capabilities into the network, thus lowering their operations and management overhead.
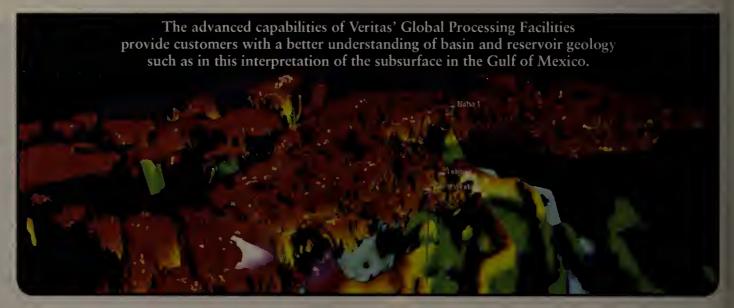
"The E1200 is a very well designed, redundant piece of machinery," Northrup says. Gaskell concurs: "The only component we could break was the paint. I can sleep well at night."

The Ultimate Benefit: Flexibility

Veritas currently has Force10 E600s and E1200s deployed in its Houston, London, and Singapore data centers. Having such high-density switch/routers has allowed IT to build efficient, high bandwidth, resilient data center back ends with the scalability to accommodate future changes.

And by allowing Veritas to implement a simpler network design, the E1200 has enabled IT to drive down equipment and overhead expenses. Fewer devices in the network means lower power consumption and cooling costs, for example, and less management overhead. Northrup notes that transitioning to Force10's equipment was "seamless," with virtually no learning curve for the staff.

Above all, Force10 has given Veritas flexibility. "We're always pushing the edge with new technologies," notes Gaskell. "Flexibility was one of the main things we were looking for. We don't know what's coming around the corner and we don't want to lock ourselves into an architecture. Such a high density core gives us the flexibility to explore different design options. And if a new technology comes along, or the algorithms or traffic flow change, we wouldn't have to re-engineer the network or forklift out the infrastructure with Force10."

The advanced capabilities of Veritas' Global Processing Facilities provide customers with a better understanding of basin and reservoir geology such as in this interpretation of the subsurface in the Gulf of Mexico.

ENTERPRISE COMPUTING

■ WINDOWS   ■ LINUX   ■ UNIX   ■ SERVERS   ■ STORAGE   ■ GRID/UTILITY   ■ MOBILE COMPUTING

Credit Suisse backs utility computing

BY JENNIFER MEARS

Credit Suisse is buying into Azul Systems' idea of creating pools of computing resources to support processing-intensive Java applications, and plans to install the start-up's multi-core systems to allocate resources on demand across its data centers worldwide.

The financial services company in Zurich, Switzerland, also announced earlier this month that it was investing in Azul. The financing, the amount of which was not disclosed, is part of a second round of funding for Azul, which closed its Series A round last April. Existing investors, which include Accel Partners, Austin Ventures, ComVentures, RedPoint Ventures and Worldview Technology Partners, also participated in the round.

"The real message here is the validation of a top bank," says Scott Sellers, an Azul cofounder who is the company's CTO and vice president of hardware engineering. "It's all about bringing network-attached processing to Wall Street."

Credit Suisse is Azul's second announced customer. The first was Pegasus Solutions, which provides technology and services to hotels and travel distributors.
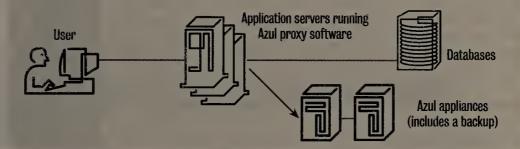
Credit Suisse says Azul will help it move to a utility data-center model that can be accessed by a variety of different applica-

Offloading the work

Credit Suisse says Azul Systems' Compute Appliance will help it move to a utility-computing model by allocating CPU and memory to applications on demand. Azul virtual-machine proxy software installed on existing application servers offloads Java processing from the servers to the appliance.

User — Application servers running Azul proxy software — Databases — Azul appliances (includes a backup)

tions. With the Azul Compute Appliance, CPU and memory resources will be allocated to applications according to demand, enabling Credit Suisse to charge internal users based on use and QoS, executives say.

"Instead of something that is purely based on physical assets such as the purchase of a server, we move to virtualizing the physical resources and then charge back based on the amount of [resources] used," says an IT technology strategist at Credit Suisse in New York who asked not to be named, in accordance with company policy. "So if they use more or less compute power or memory, we can charge based on that and

also based on [QoS]. It allows us to make sure that applications [consumers] are paying appropriately for their use of IT resources."

Azul's 11U Compute Appliance, which began shipping last June, is built on a custom-designed processor with 24 processing cores. The system comes with between four and 16 processors, meaning customers can get as many as 384 cores and as much as 256GB of memory in a box. That pool of processors and memory can be allocated on demand to handle Java workloads that are offloaded from existing application servers.

The Compute Appliance becomes an extension to existing environments; no modification is needed to applications or hardware architecture, the IT technology strategist says. The only change is that proxy software is installed on application servers directing them to send Java processing to the Azul appliance. A management tool lets users set business rules and priorities to control how much processing power is assigned to each application. ■

Short Takes

■ Worldwide **server revenue** rose in 2005 driven largely by increased sales of x86-based servers, according to figures released by Gartner and IDC last week. Revenue grew 4.5% to $51.7 billion, while server shipments grew 12.7% to 7.6 million units from the previous year, Gartner says. IDC estimates revenue grew 4.4% to $51.3 billion, while shipments grew 11.6% to 7 million servers. Although the two research firms' numbers vary, the overall message was the same: Lower-end servers based on x86 microprocessors from Intel and Advanced Micro Devices continue +to outpace sales of midrange and higher-end enterprise servers.

Adaptec rolls out storage for SMBs

BY DENI CONNOR

Adaptec last week launched software and its highest-capacity network-attached storage appliances designed for small and midsize businesses.

The company's StorAssure Personal Edition software allows for continuous backup of desktop or laptop data to an Adaptec Snap Server appliance. The Snap Server 500 Series consists of three new 1U-high (1.75-inch) NAS boxes with a maximum capacity of 43.2TB of Serial Advanced Technology Attachment (SATA) drives or 26.4TB of Serial Attached SCSI (SAS) drives.

StorAssure wizards simplify configuration of the software and the creation of backup jobs. Rules let users decide the types of files to protect. The software also lets users save multiple versions of files.

When a user is disconnected from a network, changes to files are constantly logged. When the user reconnects, changes are saved to the network automatically. If a laptop is lost or if files are deleted or corrupted, the software guides the user

The Snap Server 550 is the largest of Adaptec's NAS appliances, with a maximum capacity of 43.2TB.

through the recovery process.

Backup of laptop and desktop data has not been a priority for SMBs, analysts say. According to the Enterprise Storage Group, SMB data is growing at 60% to 100% annually. IDC reports that more than half of SMBs do not back up their client data.

The Snap Server 500 Series consists of the 510, 520 and 550 appliances, each of which is configured with redundant, hot-swappable power supplies and AMD Opteron processors for its storage controller. The appliances connect to a network via redundant Gigabit Ethernet

adapters. All three NAS boxes support RAID Level 0, Level 1 and Level 5 for fault tolerance and are managed via Snap Server Manager software.

The 510, which uses SATA drives, has a capacity ranging from 512MB to 4GB. The 520 uses SATA and SAS drives and has a capacity ranging from 1T to 26TB. The 550 also uses SATA and SAS drives and scales to 43.2TB.

Adaptec bundles CA eTrust anti-virus and BakBone's NetVault backup software with the Snap Servers. NetVault contains virtual tape-library capability, allowing customers to deploy disk-to-disk or disk-to-disk-to-tape backup.

StorAssure costs $36 per Windows client. It works with versions of Windows ranging from ME though XP Service Pack 2 and Windows 2003. The Snap Server 510 starts at $3,600; the 520 starts at $4,600; and the 550 starts at $10,000.

The company's Snap Servers compete with NAS offerings from Dell, HP, IBM and Sun (formerly Procom). ■

APPLICATION SERVICES

■ CRM ■ MESSAGING/COLLABORATION ■ WEB SERVICES ■ ERP ■ E-COM ■ NETWORK AND SYSTEMS MANAGEMENT

IBM takes aim at information mgmt.

BY SHELLEY SOLHEIM, IDG NEWS SERVICE

IBM is placing a $1 billion bet that helping businesses better manage and glean insights from their data will be a profitable software and services business.

The company announced last week that its software business will develop more advanced information management software, and the number of consultants dedicated to information management services will grow from 15,000 to nearly 25,000.

"Any data, any format, anywhere, and at scale," was the mantra voiced by Steve Mills, senior vice president and group executive for IBM Software. "It's all about the quantity of data and the speed at which you need to get it."

IBM provided details on a range of new software and services geared toward improving information management. On the services side, IBM's Business Consulting Group has rolled out a half-dozen new offerings that target such challenges as analytics, risk and compliance.

On the software side, IBM discussed two products that incorporate technology gained during its software-vendor shopping spree last year. The first, WebSphere Information Server, uses technology from software-maker Ascential, which IBM acquired last March. Information Server combines the information-integration capabilities of IBM's WebSphere Data Integration Suite and the federation functionality of WebSphere Information Integrator with a new service-oriented architecture service publishing capability. With it, businesses can pull data together from a variety of federated sources, Mills says. It is set to be available in the second quarter of 2006.

The second product, WebSphere Content Discovery Server, is search software based on technology from e-commerce search-technology developer iPhrase, which IBM acquired last November. IBM is offering the tool in different flavors geared for online shopping sites, contact centers and self-service portals. The software uses content integration, search, semantic analysis and contextual information to interpret the underlying meaning of online inquiries and to make recommendations based on those interpretations.

Globalization, mergers and regulatory compliance are among the chief drivers for businesses seeking to manage information better, IBM said.

One company uses IBM software to analyze data on Medicaid claims, which could save money for taxpayers in New York. The Medicaid program is the New York counties' most expensive program, said Scott Vanderhoef, county executive for Rockland County. "Just for Rockland County alone, we spend over $1 million a day on this one program," he said.

For a pilot program that looked for aberrations in provider claims during a 21-month period, IBM provided its own Fraud and Abuse Management System software as a service to the county and ran the claims through its supercomputer.

Of the claims evaluated in the pilot, almost half were questionable. If those were

Rockland County could save New York taxpayers $13 million with the use of IBM's software, says Scott Vanderhoef, county executive.

resolved successfully, Vanderhoef estimates, the county might be able to recover nearly $13 million.

Now that the data has been collected, the next step for the county is how to reap the potential savings from it. "Now the question becomes, who is going to do the footwork to walk into these places and do forensic audits to check which are fraud," he said.

Vanderhoef said IBM is also developing software that could allow New York state to spot aberrations in claims before they are paid out. "You're talking about mining and harvesting information that has always been there and using it to actually change how you do business, in this case to save money for taxpayers," Vanderhoef said. ■

NET INSIDER
Scott Bradner

Orwell did not guess the worse half of it

It has become a cliché to bring up George Orwell's 1948 book *1984* when talking about the ever-increasing pervasiveness of governments monitoring the activities of their citizens in the name of security. But Orwell's apocalyptic picture of a quiet dehumanization missed entirely the most important threat to our privacy and sense of being.

Orwell painted a picture of a world where government has the ability to monitor everyone, everywhere (www.nww.com, DocFinder: 2360): Individuals never know when they are under surveillance, so tend always to act as if they are.

The most recent reason to invoke Orwell was presented by Harold Hurtt, chief of police in Houston, who suggested that police-run surveillance cameras in public places did not go far enough and [said] that owners of malls and large apartment complexes should be required to install such cameras as well. If that was not enough to set off us civil-liberties types, he also said that in some cases surveillance cameras should be set up to monitor private residences.

Hurtt proposed expanding the number of police-run surveillance cameras to help deal with a shortage of police officers. It is hard to argue that it would not make things easier for the police if they could record everything everyone did and could track robbers back to when they took the gun used in a robbery out from under the bedroom pillow in the morning. Not the kind of world I'd like to live in, but more convenient for the police.

As one might expect, the chief dismissed any privacy concern by saying, "If you are not doing anything wrong, why should you worry about it?"

This response has been used recently by the Bush administration in defense of the National Security Agency wiretapping and one that emphasizes the disconnect between the viewers and the viewed. My guess is that almost no one who says this would be happy to have the tables turned to let citizens watch politicians' private lives.

What Orwell did not figure out is that most places — including most of the places Hurtt wants to monitor — are already under watch. It is hard to walk more than a few feet inside a mall or major corporate building without being recorded by a security camera. Many homeowners have installed security or nanny cameras. We are recorded in many — soon, maybe most — places we go.

More pervasive are corporate databases that record everything you buy, read or do. Phone companies and automatic toll systems know where you go, Google and Yahoo know what you want to look at, *The New York Times* and other online news sources know what you read, and your local market knows what you want to eat. In the future, RFIDs will make this data collection and linkage easier (for a view of that future, see DocFinder: 2361).

Orwell missed the fact that much of the privacy threat would come from the private sector, where there are few meaningful, legally mandated controls. It will be up to government, however, to decide if we need to accept the current fact that we have no privacy and have to "get over it."

Disclaimer: Harvard, like other schools, does have laws protecting privacy, at least for students. But the above call for more rules is mine, not the university's.

Bradner is a consultant with Harvard University's University Information Systems. He can be reached at sob@sobco.com.

intel
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SERVICE PROVIDERS

■ THE INTERNET   ■ VPNS   ■ INTEREXCHANGES AND LOCAL CARRIERS   ■ WIRELESS   ■ REGULATORY AFFAIRS   ■ CARRIER INFRASTRUCTURE

Both sides have a point in net neutrality

EYE ON THE CARRIER
Johna Till Johnson

Last week we brought up some of the most critical telecom policy issues for 2006. Top of the list is net neutrality. Congress started hearings on the topic a few weeks back, and both telcos and content providers are lobbying hard.

There are two main camps — call them "pay for use" and "equal access." The pay-for-use folks — chiefly telcos — argue that different types of traffic differentially affect the network, and they should therefore be able to charge for higher-impact traffic, the same way postal services charge more to ship 10-pound packages than 2-ounce letters, and more for guaranteed overnight delivery than best-effort service. Similarly, highway tolls are higher for 18-wheelers than a family Toyota.

Equal-access folks — chiefly the content providers such as Google and Yahoo — say telcos shouldn't discriminate based on what the traffic is or where it's headed. The

argument is that postal services don't charge more to carry your mortgage payment than, say, a birthday card. By analogy, telcos have no right to charge more for Google clicks or eBay hits.

Who's right? Both are. Certain types of traffic — voice, video and some interactive applications — do stress the network more than others, and this impact is particularly severe at last-mile broadband links, where congestion is most likely. Yet having telcos prioritize some Web sites over others not only destroys the innovative any-to-any nature of the Internet but also runs counter to several centuries of historical de facto net neutrality.

Take postal services: Ben Franklin launched one of the first, to distribute his Philadelphia newspaper to readers in Boston and New York. Even though his service would also carry mail, he refused to carry papers for competing publishers — early precedent for service providers exercising control over content distribution.

But that first precedent was pretty much the last. Once the postal service became government-regulated, the rules changed, and even unregulated services (such as FedEx) abide by them. Today, the effective policy is equal access combined with pay per use: The post office can't refuse to carry ads for FedEx, but it can charge more for heavier boxes and overnight guarantees. Similarly, traditional telcos can't charge you more to gossip with your sister than to place trades with your broker, but they are free to charge more for longer calls or those placed to far-off geographies.

These examples point the way toward a workable compromise for net neutrality. Google and Yahoo are right to insist that the telcos not charge differently for traffic to their sites. The telcos do have the right to charge more for traffic types that stress the network. In other words, telcos should be able to charge higher rates for VoIP-grade Internet access — which consumers are free to purchase or decline — but not for the use of specific services such as Vonage, or for access to sites such as Google.

Johnson is president and senior founding partner at Nemertes Research, an independent technology research firm. She can be reached at johna@nemertes.com.

Short Takes

■ **XO Communications** last week expanded the reach of its business VoIP services to small and midsize businesses with large offices. The expansion broadens the market for **XOptions Flex service** by making it available to businesses with as many as 160 employees at each location — a market that XO says spans more than 4 million businesses nationwide and spends $50 billion annually on telecom. The extended service is available in Chicago, Dallas, Fort Lauderdale, Miami, Minneapolis/St. Paul, Orlando, San Francisco and Tampa/St. Petersburg/Sarasota. It will be available nationwide by summer.

Service provider Netifice to acquire MegaPath

BY DENISE PAPPALARDO

Netifice and MegaPath, two companies that offer secure broadband services to corporations with thousands of sites, are joining forces.

Netifice is acquiring MegaPath for stock and cash. Financial details were not disclosed.

"Both of our companies, management and investors, have been looking for ways to scale the business and establish more reach in the market," says Craig Young, CEO at Netifice. He says Netifice began its search for a partner about five months ago and that talks began heating up with MegaPath about one month ago.

"We had absolute agreement between our investors and management that putting these two companies together would create a powerhouse in the industry of managed IP services," Young says.

The joined companies are expected to bring in about $125 million annually.

MegaPath has far more customers, with 14,000 under its belt, but only about half of those are large enterprises. Netifice has 2,000 customers, which the company says all are midsize and large businesses.

Both companies offer IP VPN services, but MegaPath only offers managed IP VPN services based on IPSec. Netifice offers MPLS- and SSL-based IP VPN services. Netifice acquired the latter service from Aventail just over a year ago. That deal included Aventail's Managed SSL VPN Services business unit, including 120 customers, 85 employees and network assets.

Young says the companies have little overlap and offer complementary services including MegaPath's managed firewall, anti-spam and anti-virus services and Netifice's planned VoIP service rollout.

Netifice is testing a new VoIP offering with customers including Doctor's Associates, the franchiser of Subway restaurants.

"We are looking at potential VoIP cost savings in our retail environment," says Marina O'Rourke, director of retail technology at the Milford, Conn., sandwich franchiser, which has 25,000 restaurants worldwide.

"Now with the additional resources and capital MegaPath brings, Netifice will be in a better position to deploy and support large-scale networks," she says.

O'Rourke says Subway has been using

Netifice services to support its Subway Retail Network since 2004. "The acquisition makes me feel like we made the right choice when we selected Netifice," she says. About 1,000 franchisees are using the service today, and another 1,000 are slated to come on line this year.

Netifice touts other customers such as The Leather Factory, MortgageIT and Thomson Prometric. MegaPath's customer list includes Jenny Craig, Radio Shack and insurance company UnumProvident.

The combined companies will have about 400 employees, Young says. He will stay on as CEO. Brian Service, CEO at MegaPath says he will be leaving after the deal closes.

The merger is expected to close in April, pending California state and shareholder approval. Young says he expects a positive cash flow by 2007. ■

A look at the two companies

■ Company:	MegaPath
Location:	Pleasanton, Calif.
Founded:	1999, privately held
Business:	Managed, secure remote-access services for businesses.
CEO:	Brian Service
Customers:	14,000
Investors include:	Austin Ventures, GM Capital Partners, Trident Capital

■ Company:	Netifice Communications
Location:	Costa Mesa, Calif.
Founded:	1996, privately held
Business:	Managed, secure IP VPN services for businesses.
CEO:	Craig Young
Customers:	2,000
Investors include:	Boston Millennia Partners, Dolphin Equity Partners, HIG Capital

NET.WORKER

SMBs: Outsourcing a growth tool

BY JENNIFER MEARS

Encharter Insurance, in Lexington, Mass., prides itself on its hometown appeal. That feel for the neighborhood has contributed to its rapid growth — Encharter doubled in size in the last few years, to 55 employees and about $8 million in revenue.

But while business boomed, like many small companies Encharter paid little attention to developing an IT strategy to support expanding technology demands.

"I came into this job and found that there was no IT department," says Michael Sher, who last year was named president and CEO of the group of seven insurance agencies in Massachusetts and Connecticut.

He started looking for outside help, a maverick decision for the head of a small company. Most small and midsize businesses are reluctant to hand over IT functions to outsourcers, in large part because SMBs lack familiarity with the idea of outsourcing and fear they will lose control.

In addition, while some smaller outsourcing vendors such as CenterBeam and Everdream have built their businesses by focusing on SMBs, big-name providers such as Electronic Data Systems and IBM have yet to carve out a niche in the low end of the market, creating a supply-side issue that is holding back more widespread demand, analysts say.

Gartner estimates that about 90% of all new businesses created in the United States are in the SMB sector. It's a huge opportunity for outsourcers as these small firms begin to recognize that they can achieve the same benefits that large organizations enjoy when they hand over non-core IT functions to outside service providers.

"There is a small but growing legion of SMBs that are considering outsourcing," says Robert Brown, a research director at Gartner. He notes that the base is small: Companies with 100 to 499 employees now account for just 7.8% of the $50.5 billion business-process outsourcing market, but that number is expected to grow to more than 8% of a $78.8 billion market by 2009, according to Gartner.

"For most SMBs, there is an unfamiliarity with outsourcing that dictates that when they make technology buying decisions, the first thing they are going to think about is buying hardware and software, and then trying to integrate those through internal resources and staff, as opposed to turning to an outsourcer to help," Brown says.

Sher says when he left Plymouth Rock Insurance about a year ago to run its subsidiary Encharter, he could hardly believe the IT situation.

"The offices weren't networked. And it was all supported by one guy, and if he was sick our whole system could be down. He was also charging us for travel between the seven offices in two states," Sher says. Encharter last year turned over the bulk of its IT infrastructure, including its Microsoft Exchange servers, to CenterBeam.

"Now we have nightly backups. We have servers that are in a Class 1 data center. We have all the things that you would want a growing insurance agency with aspirations for further acquisitions and expansion to have," Sher says.

The small company had to invest in upgraded hardware such as routers and T-1 lines to take advantage of remote service, but that investment paid off. "We have probably cut our IT costs in half," he says.

In addition, Sher says Encharter now has the kind of technology support it needs to continue to grow. It's a growth-by-acquisition strategy of the kind that is pushing other SMBs to look at outsourcers, including offshore.

Kitcoff-APSI, a consulting and administration firm that focuses on full-service, employer-sponsored retirement plans, is using Indian offshore provider Patni to buoy its numerous acquisitions. Michael Campo, founder of the Coral Gables, Fla., company, says outsourcing is the key to his business model.

"I needed to lower my labor costs," he says. "Once I bought holistically into the idea of outsourcing, I could then acquire another firm and completely take over its entire book of business and outsource it to India without absorbing any of their labor cost mistakes." Patni handles recordkeeping tasks associated with the administration of Kitcoff-APSI's defined-contribution plans.

Campo says outsourcing can be a tough decision for any company, large or small. "The problem is, inherently a small-business owner has even more reservations because [the company] is his," he says. "But there are many ways to mitigate those fears." One is to completely embrace the concept of outsourcing, Campo says.

"My business model is completely immersed now in the concept of outsourcing the heavy lifting to Patni," Campo says. The strategic advantage — customer service — remains in-house.

Henry Svendblad, vice president of IT at Millennium Partners Sports Club Management in Boston, also was looking for a way to offload non-core IT headaches. He outsourced the company's IT functions to CenterBeam in December, just a month after coming on board.

"As I looked at our IT strategy, I realized I could dedicate most of my time to building an IT infrastructure and then try to build our business systems from scratch. Or I could let CenterBeam focus on our infrastructure and focus all of my energies on our business systems, where I can really add value," he says. ■

Letting go

More small and midsize businesses are starting to look at outsourcers for cost savings and competitive advantage. But hurdles still remain:

Challenges:
- Fear of the unknown.
- Lack of focus.
- Pushy providers.
- Unclear objectives.

Strategies:
- As with any investment, do your due diligence but also try to get a trial run. With today's remote-access technology, any outsourcer looking for business should be able to give you a test run for free.
- Figure out what's core to your business and then outsource what's not, preferably starting small.
- Don't let service providers sell you on new technology or services you don't need. Stay focused and know what you want before signing anything.
- Make sure you're aware of internal benchmarks and service performance before outsourcing so you have parameters by which to judge success or failure.

Short Takes

■ **IBM** plans to ship a new version of its Tivoli Identity Manager software designed for small and midsize businesses. **Tivoli Identity Manager Express** will be a slimmed-down version of the product that can be used by a maximum of 5,000 users, Tivoli says. Tivoli Identity Manager typically is used by very large companies to manage user names and passwords, and audit user activity. The Express version of the product will have fewer customization features than its corporate counterpart, but it also will be easier to install and manage. The software will come with five pre-configured templates to help administrators manage accounts and permissions, managers and other types of users. Identity Manager Express is scheduled to ship on Feb. 28, and will be priced at $24 per user.

■ VoIP start-up **Whaleback Systems** is offering a **flat-fee phone service** that includes phones, an IP PBX and unlimited calling to any phone in the United States. Designed for businesses with as many as 1,500 phones, the service, called Crystal-Blue, is built around the SMB 1500, an IP PBX that Whaleback built using its own code to supplement software the company purchased from several other vendors. Customers who buy the service first get an analysis of their current phone bill compared with what they would pay for Whaleback's service, the company says. Whaleback charges an installation fee, and customers buy the PBX and the phones, which are made by Polycom. For an office with fewer than 10 phones, the setup, configuration and training is priced at $1,000 for the PBX and $300 for each phone. For offices with more than 10 phones, the price of the PBX increases to $2,500. The phone price stays the same.

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TECHNOLOGY UPDATE

■ AN INSIDE LOOK AT TECHNOLOGIES AND STANDARDS

Risk-discovery engines mitigate threats

BY KEVIN CHEEK

Most companies are not prepared for the CEO's worst nightmare: insiders disseminating sensitive data electronically. It only takes one insider to expose a company's most vital assets, destroying its brand, reputation and shareholder value.

Network content-monitoring hardware appliances equipped with risk-discovery engines can provide visibility into the data entering and leaving a network. They can help enterprises protect, for example, customer data and intellectual property, and help organizations comply with regulations.

Risk-discovery engines passively monitor inbound and outbound traffic at wire speed, flowing over a network regardless of protocol or port. TCP flows are captured, reassembled and analyzed in real time to identify threats and send alerts.
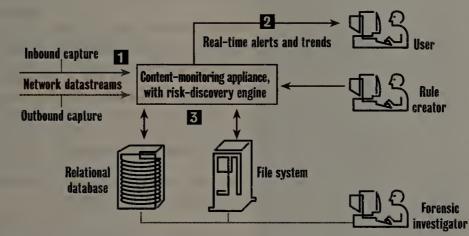
Pre-defined and custom policies that perform pattern matching can be applied to traffic to identify information. An engine also can be configured to store traffic that violates policies, as well as traffic that does not trigger them, and can make the latter available for querying over historical datastreams.

Content-traffic profiles and business and IT stakeholder dashboards are presented through a secure browser connection to provide an incident's context. An administrator or user with role-based permission can view original content, such as a PDF, and its associated transmission metadata, such as source and destination IP and user.

One example would be Social Security

HOW IT WORKS: Risk-discovery engine

A content-monitoring appliance uses a risk-discovery engine to peer into all content flowing through a network and identify threats.

1 A content-monitoring appliance captures and reconstructs inbound and outbound datastreams.

2 The risk-discovery engine provides real-time classification, analysis and threat alerts via user-configurable rule and policy creation. Appliance notifies users of violations.

3 Risk-discovery engine writes full context of real-time incidents and content that didn't trigger filters to a relational database and file system storage to fulfill queries from forensic investigators.

numbers leaked via an outbound e-mail. A risk-discovery engine would detect the Social Security numbers in the e-mail and alert security and compliance personnel. It could then reveal, for example, that the data was being e-mailed in error reports generated by a misconfigured application server.

IT personnel could reconfigure the application server and firewall to stop outbound e-mail from unauthorized mail gateways.

As TCP flows were reconstructed, the risk-discovery engine would identify the protocol and content type. Even if the protocol was unknown, the risk-discovery engine would continue to scan until it identified the content object. For example, "port-agnostic" support means no content transmission would be missed if SMTP e-mail was sent over ports other than Port 25, from which it is usually sent.

Content objects would be written and temporarily stored to an onboard file system. Matching metadata would be stored in a relational SQL database for subsequent data-mining operations. Alerts would be produced in real time as violations were identified.

In addition, conceptual analytics, which uses pattern-matching techniques to detect trends and anomalies in data sets, enables users to gain greater insight into streamed and historical data flows.

For example, say a defense contractor conducts an audit of electronic information transmitted to other countries to ensure compliance with international regulations. Investigators discover that FTP transmissions to China have been bypassing their perimeter security controls. A risk-discovery engine would detect and record transmissions to China, then reveal that the information was classified and the source was a rogue FTP server. IT personnel could then dismantle the FTP server and provide electronic evidence of remediation.

Appliance-based content-monitoring solutions with risk-discovery engines detect, scan and analyze continuous flows of information for threats, and mine datastreams for patterns or anomalies. Correlation queries over historical datastreams captured and stored by risk-discovery engines provide additional tools to corroborate perimeter security breaches and provide additional context to real-time incidents.

Cheek is vice president of product management for Reconnex. He can be reached at kcheek@reconnex.net.

Ask Dr. Internet   By Steve Blass

We're looking for an open source or low-cost Web-based project management tool. The most important feature we need is a decent calendaring system that will work with users from distributed groups that don't share an e-mail platform. We would like the kind of functionality Outlook provides for calendars and tasks in an Exchange environment, but without requiring that everyone use Outlook and Exchange.

There are several free and low-cost project manage-

ment and collaboration groupware tools, ranging from full-featured project management portals to simple task trackers, or software tool kits that interchange information and data files between open formats and Microsoft Project. It sounds like some general content-management systems will provide calendaring features to meet your needs. The Open and Free Project Management Tools site (www.nww.com, DocFinder: 2366) provides a list. Take a look at dotProject (www.dotproject.net), Tutos (www.tutos.org) and Trac (DocFinder: 2367).

DotProject is a PHP/MySQL Web application that

delivers project management, task-tracking and calendaring tools. Straightforward Web-based installation requires only a MySQL database and a user with privileges to create a database. Tutos is similar to dotProject, but a bit more difficult to install, and has a more mature documentation base. Trac is interesting because it is wiki-based, which makes it more flexible for distributed and diverse workgroups.

Blass, a network architect at Change@Work in Houston, can be reached at dr.internet@changeatwork.com.

Tools for travelers

GEARHEAD

INSIDE THE
NETWORK
MACHINE

Mark Gibbs

How many times have you been traveling and, hours or even days after plugging your laptop into the broadband connection in your hotel room, you realize you didn't change your PC configuration from your office setup to something more secure?

Discovering that you've exposed your local shares to the world, even if they are read-only, is sobering.

We have been testing a Windows product called MultiNetwork Manager 8 (www.nww.com, DocFinder: 2368) from Globesoft that aims to prevent such unintended exposures and in the process makes switching configurations much easier.

MultiNetwork Manager is smart — it auto-detects the network you are connected to and, if one's been defined, offers to set up the profile you configured for that environment. With one click you also can change your current network setup to any previously defined profile.

Among the Windows networking features you can save to a profile are dial-up networking settings, TCP/IP and proxy configurations (proxy servers and settings can be automatically discovered also), domain and workgroup affiliations, mapping of shared drives and printers, as well as environment and registry settings.

MultiNetwork Manager profiles can run scripts automatically when a profile is loaded; automatically enable and disable file sharing; use global and profile-based security rules; integrate dialers such as iPass; edit, import and export profiles; and capture current settings into new profiles. You also can configure wireless LAN settings, including security configuration, and control VPNs, firewalls and anti-virus features.

The user interface is good, and the software has a good help file. MultiNetwork Manager comes in two versions: the

> ## Discovering that you've exposed your local shares to the world, even if they are read-only, is sobering.

Standard edition for home and business users and the Professional edition for IT professionals and administrators (see DocFinder: 2369 for a list of the differences between the versions).

We took this utility on the road and never wound up with an inappropriate network configuration, whether we connected wired or wirelessly. When we returned to the office it took only a few seconds to reconfigure for our network environment.

MultiNetwork Manager costs $10 for the Standard version and $20 for the Professional edition. Globesoft offers volume discounts.

Wisco's SynchPst is another software find that is incredibly useful when traveling (www.synchpst.com). SynchPst synchronizes Outlook folders (all types) on two or more machines without the need for Exchange. The product's name comes from the file type — PST — that Outlook uses to store its folders and data.

To synchronize folders you need to be able to access the remote machine's PST file. This is done by mapping a Windows share on the remote machine to a local drive.

When you launch SynchPst, it in turn launches Outlook if Outlook is not already running. You select which folders are to be synchronized and click the button to select the direction (to the local machine only, to the remote machine only or bidirectionally) of the synchronization.

Resolving conflicts is straightforward: In bidirectional mode the item with the latest time stamp wins, and in single-direction synchronization the source item always wins.

The SynchPst settings also let you synchronize every so many minutes. This is great if you are planning to run out of the office at the last minute — it makes the final synchronization really fast.

If you are using the Professional edition you can save the current setup as a batch file, which lets you automate synchronization, for example, to synchronize just your in-box or just your notes.

There are two versions of SynchPst: Basic edition and Professional edition, which cost $40 and $70, respectively.

If you have any traveling tools you can't live without, we'd love to hear about them at gearhead@gibbs.com.

Cool Tools

Quick takes on high-tech toys. **Keith Shaw**

The scoop: KR1 Mobile Router, from Kyocera, about $300.

What it is: The KR1 Mobile Router looks like an ordinary wireless LAN (WLAN) router, until you notice that there's no WAN Ethernet port on the back. Instead, you can slide a wireless WAN card (such as Kyocera's KPC650 card, which accesses the Verizon Wireless CDMA EV-DO network) to provide wireless WAN capabilities. In addition, a cell phone customer with an EV-DO data plan can connect via a USB cable to provide the WAN connection.

The KR1 includes four Ethernet LAN ports, as well as an 802.11b/g antenna that can provide LAN connections for additional computers. The router includes standard firewall features, and wireless security is supported through Wired Equivalent Privacy or Wi-Fi Protected Access Pre-Shared Key settings. The unit weighs less than 1 pound, making it easy to pack up and carry with you on your travels.

The KR1 is aimed at mobile workgroups, such as a group of sales teams in the same location that want to share one connection.

Kyocera even suggests the KR1 as an alternative to fixed broadband services (cable or DSL) in the home, although if those options aren't available for home users, one wonders whether they'd be in range of the EV-DO wireless network.

Why it's cool: There are several options for providing Internet access to multiple team members on the road, but they're not always appealing. Giving users multiple EV-DO cards is one answer, but the cost (about $60 per month, per user) can get out of hand, especially if they're not traveling frequently. In-room hotel access and WLAN hot spots also can be costly, and they often rely on a team being at a specific location. The KR1 is cool because it requires only one WAN access option (a user's PC Card or EV-DO-enabled phone) to provide Internet access to multiple computers. As long as your team members are within the range of the EV-DO network, you can provide them Internet access without worrying about whether the hotel's Internet service is up and running.

Setting up the router was easy — I slid in the Kyocera Wireless EV-DO WAN card and plugged in the power adapter, and the system was up and running (via the defaults for WLAN access). Configuring the router involves connecting an Ethernet cable to the router from a laptop or PC and using a browser to change WLAN settings, add security levels and change passwords. I experienced a minor glitch — the first laptop I used for configuration couldn't access the router, despite receiving the proper IP address and being on the same subnet. I switched to a second laptop and was able to access the router configuration, so I chalked up the glitch to the fact that I was using a pre-production model of the KR1).

Kyocera also provides a $30 optional car charger, which can power the KR1 unit through the cigarette lighter. This lets team members use the WAN connection while traveling in a car — perfect for those panic situations where a team member needs network access right before a sales presentation (check out the Cool Tools video show at www.networkworld.com/itvideo to see how we attempted the in-car network access scenario).

Grade: ★★★★⁴ (out of five)

Kyocera's KR1 Mobile Router lets you create an instant broadband wireless network through an EV-DO-enabled cell phone (pictured) or a PC card.

Shaw can be reached at kshaw@nww.com.

On Technology
John Dix

Advisory board shares ideas

Get five technology executives in a room to discuss technology trends and you'll get a healthy dose of reality, sans vendor hyperbole.

In the first 2006 meeting of the Network World Advisory Board (members hail from large companies in the Boston area), we discussed everything from IT management frameworks to security. The members prefer to remain nameless, but their opinions are worth sharing.

One of the things all of the members share an interest in is the IT Infrastructure Library (ITIL), a framework for IT service management. All five are working with ITIL, and most seem to agree with the approach that Gartner advocates: Use just enough. "We're implementing the parts we think we need," one board member said.

Why ITIL? To do anything today the first step is always "find the guy," said one board member. Find the guy who knows how this was crafted and why and what the dependencies are. She is looking to use ITIL to introduce more formality to the IT process and define business services. "We want to shift so we're business-focused and less technology-focused."

"ITIL helps eliminate finger-pointing," said another board member. What's more, she said, it can facilitate outsourcing because many outsourcers use ITIL frameworks.

Most of the board members are outsourcing something. One member uses two companies in India for application support, primarily PeopleSoft, SAP and Siebel. He has a full-time resource manager on staff to support the relationships.

Another member outsources infrastructure support. All mainframes were turned over, as well as many servers, but the company kept desktop support and is looking at bringing network monitoring back in-house because of a dispute about who is responsible for what. The lesson: Triple-check contract wording.

When asked about service-oriented architectures (SOA), the top buzzword of the day, one of the members said he keeps asking his team, "What problem are we trying to solve?" If the answer is application integration, the next question is, how can the legacy stuff play?

The only member who has an SOA service running said he expects SOA will arrive as the major application vendors build it in. "We'll migrate as they migrate."

On the security front, the board members agreed that security isn't hard; meeting compliance regulations is. Even interpreting the rules is complicated. "It is easy to over-interpret, and then costs go through the roof," said one member.

Companies that deal with consumer information, for example, have to comply with internal firewall requirements. You can't, for example, use real data in test environments. "It is at least an order of magnitude more complex than issues surrounding perimeter firewalls," one member said.

—John Dix
Editor in chief
jdix@nww.com

Opinions

RIP, token ring

In his column, "Ethernet's secret source," (www.nww.com; DocFinder: 2355) Kevin Tolly contends that today's successfully proliferating and evolving Ethernet technology is, underneath, the IBM token ring, which may be "gone, but it was never a flop."

Tolly goes back to the old saw determinism, accusing Ethernet of not having it. While stating correctly that there has not been a reported Ethernet collision in years, he fails to notice — as so many token-ring customers did — how much non-deterministic hell breaks loose when tokens get lost. He says Ethernet still does not have large frames, completely overlooking that token ring's failure might have had more to do with it being too complex, too slow, twice as expensive and because of the old IBM monopoly's bad attitude, non-standard.

I know from experience how painful it is for columnists to admit they were wrong. But Tolly should just admit that I was right about Ethernet, and he was wrong about token ring. But the trick is to admit you are wrong while people still care, which they don't anymore about token ring.

Bob Metcalfe
Ethernet inventor
Boston

In his column, "Ethernet's secret source," Kevin Tolly calls Arcnet a "LAN technology flop." I agree that Arcnet did not have a long life, but one should consider what it did for technology.

Arcnet was designed to run on RG-62. This coaxial cable was installed to support IBM 3278 and 3279 terminals that connected to mainframes. Arcnet let PCs be used on existing cable plants, which didn't happen again until Ethernet attempted to use Category 3 cable, which was designed for voice communications.

Although the throughput and the architecture of Arcnet eventually broke down, it had its place in the history of technology.

Dewi Sant
Senior technology consultant
TekSystems
Southfield, Mich.

Bugged by briefs

In the news brief, "Explorer bugs abound" (DocFinder: 2356), we learn that a single bug that can crash Internet Explorer has been found in a beta release. In the next brief, "Firefox fixes a few bugs," we read of a "highly critical" release of eight Firefox fixes (including some that would allow the takeover of unpatched PCs) and an unpatched bug in Thunderbird.

The tone of the Firefox brief is right: Here's the risk, here are the steps users should take to protect themselves. If the Internet Explorer brief had been written in the same tone, it would have boiled down to: "Tom Ferris has published a vulnerability in the latest beta release of Internet Explorer. The vulnerability can be exploited to cause Internet Explorer to crash. To avoid any associated problems, users are advised not to use beta software."
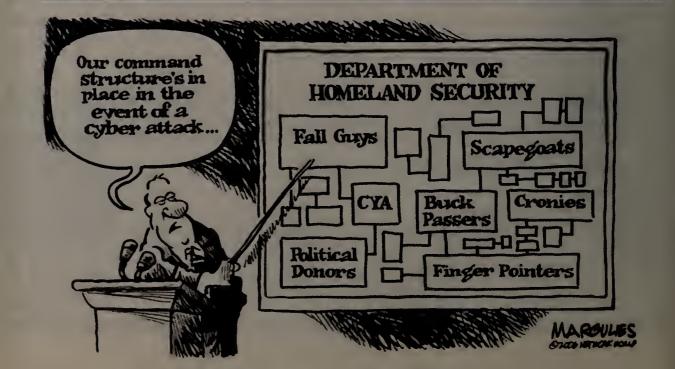
It seems to me poor journalism to cast a single bug in a beta as proof that Internet Explorer is rife with risk, while saying the Firefox risk is mitigated because no one knows of any exploits taking advantage of the vulnerabilities yet.

Dan Riordan
President
On-Tech Consulting
Red Bank, N.J.

E-mail letters to jdix@nww.com or send them to John Dix, editor in chief, Network World, 118 Turnpike Road, Southborough, MA 01772. Please include phone number and address for verification.

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Readers respond
Find out what readers are saying about these and other topics. **DocFinder: 1030**

Our command structure's in place in the event of a cyber attack...

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MARGULIES

The virtue of virtualization

INFRASTRUCTURE INSIGHTS
Daniel Minoli

Virtualization is a well-known concept in networking, from virtual channels in ATM, to virtual private networks, virtual LANs and virtual IP addresses. However, an even more fundamental type of virtualization is achievable with today's ubiquitous networks: machine cycle and storage virtualization through the auspices of grid computing and IP storage.

Also known as utility computing or on-demand computing, grid computing is a virtualization technology that was talked about in the 1980s and '90s and entered scientific computing in the last 10 years. It has received a lot of press and market activity over the last couple of years, and a number of proponents see major penetration in the immediate future. Big players in this market include AT&T, IBM, Oracle and Sun.

Grid computing cannot exist without networks (the grid), because the user is requesting computing or storage resources that are located miles or continents away. A user need not be concerned about the specific technology used to deliver the computing or storage power; all a user wants and gets is the requisite service. One can think of grid computing as middleware that shields a user from the raw technology. The network delivers job requests anywhere in the world and returns the results, based on an established service-level agreement.

The advantages of grid computing are its ability to mix and match different hardware in the network; its lower cost, from better, statistically averaged utilization of underlying resources; and its greater availability: If a processor fails, another one is automatically switched into service.

> ## With virtualization, a company can improve utilization, increase availability, reduce costs and make use of . . . mix-and-match processors.

Grid computing is intrinsically network-based: Resources are distributed on an intranet, extranet or the Internet. Users also can get locally based virtualization by using middleware such as VMWare that lets a multitude of servers in the corporate data center be utilized more efficiently. Typically corporate servers are utilized for less than 30% to 40% of their available computing power. With virtualization, a company can improve utilization, increase availability, reduce costs and make use of a plethora of mix-and-match processors.

Security is a key consideration in grid computing. The user wants to receive services in a trustworthy and confidential manner. There is the desire for guaranteed levels of service and predictable, reduced costs. There also is the need for standardization, so that a user with appropriate middleware client software can reach any registered resource in the network transparently. Grid computing supports the concept of the service-oriented architecture, in which clients obtain services from loosely coupled, service-provider resources in the network. Web services based on the Simple Object Access Protocol and Universal Description, Discovery and Integration protocol are now key building blocks of a grid environment.

To grid or not to grid? Try it; you'll like it. But first make sure you have an effective corporate network infrastructure in place.

Minoli is an adjunct professor at the Stevens Institute of Technology's graduate school and author of A Networking Approach to Grid Computing. *He can be reached at minoli@att.net.*

The Great Firewall of China

CACHE ADVANCE
Linda Musthaler

As China grows increasingly important in the world economy, American companies are feeling the political pressure to "act responsibly" as they do business inside Chinese borders. The United States and China have vastly different views on human rights, democracy, individual privacy and political freedom. Now American high-tech companies such as Yahoo, Microsoft, Cisco and Google are caught in the middle of this battle of political wills.

No market is more attractive right now than China, with its population of more than 1 billion. Conservative estimates put the current market of individual computer users at 110 million and growing. No wonder tech companies are anxious to take root in China.

The hallmark of the Digital Age is that more people have easy access to more information than ever before. Americans think that's good, as we believe information helps people think and act for themselves. The Chinese government, on the other hand, prefers that its populace have a more controlled (read: censored) access to information and expression.

Here's where Google ends up between a rock and a hard place. To operate in China, Google had to agree to filter certain content the Chinese government finds objectionable. The resulting service, called Google.cn, is a sanitized version of the search engine. Google is not happy about the restrictions, but the company says they are necessary to conduct business in China. Call it the Great Firewall of China.

The repercussions were swift and loud. Google has been called anti-democratic, evil, shameful and greedy. Human rights activists and members of Congress blasted the companies for giving in to a repressive government.

Yahoo also made headlines recently when it acknowledged revealing the name of a Chinese citizen who used the Internet to express his political views. Microsoft found itself in trouble over hosting and then abruptly disconnecting a popular blog by *New York Times* research assistant Zhao Jing. Further, Microsoft launched an MSN

> ## American high-tech companies . . . are caught in the middle of this battle of political wills.

portal that blocks the use of the words "freedom" and "democracy." Cisco is accused of supplying the Chinese government with switching equipment that helps to monitor and filter Web traffic. Cisco said it did nothing specific to help the government take such actions.

Executives from these companies have been requested to appear before the U.S. Congress to discuss how their business decisions may or may not support human rights violations. The companies say they don't like being censored but must observe the laws of foreign countries if they want to do business in them.

As a knee-jerk response to the situation, Rep. Chris Smith (R-N.J.) is drafting a bill that would prevent American Internet companies from putting servers in countries that the U.S. State Department deems repressive to human rights. The bill also would set export controls for Web-site filtering devices that can limit free speech.

Excuse me for saying this, Congressman Smith, but you're being awfully shortsighted. Is there anyone out there who thinks we Americans are going to change the Chinese government's stance by keeping computer servers out of China or making companies like Google and Microsoft drop their business there?

If our own government restricts companies from offering services in China because our government doesn't like their government's ideologies, who loses? Google and the other companies, for sure. The American economy, which is now so driven by the tech industry, is also on track to lose. The Chinese government will just find non-U.S. companies to provide Internet services.

China is an essential business market. It seems to me that the U.S. government should be looking for ways to help foster fair trade and good business practices so that our companies can compete fairly. As for the charges of human rights violations, let's let the State Department work on those issues and leave the technology providers out of it.

Musthaler is vice president of Currid & Company, a Houston technology assessment firm. She can be reached at linda@currid.com.

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THE BEST PRODUCTS ISSUE

CERTIFIED BEST — APPROVED FOR NETWORK WORLD

OUR ANNUAL SHOWCASE OF TOP-PERFORMING, CATEGORY-BREAKING AND ALL-TIME FAVORITE NETWORK PRODUCTS

Best of the tests

☐ Among more than 200 products tested, 48 finalists, including 10 ultimate winners, rise above.

By CHRISTINE BURNS

IF the Network World Lab Alliance — an assemblage of the industry's most experienced network product testers — commissioned an ad campaign, the result might very well mimic Orson Welles' famous voiceover for the Paul Masson winery. "We will recommend no product before its time." Well, it's time. With our seventh annual Best of the Tests presentation, we're ready to recognize the best of the more than 200 products we tested last year across a wide range of technologies. We've selected 48 finalists, from which we've named 10 winners, among nine categories, categorizing products based on the most critical network function they address.

This year's Best of the Tests categories, and the product types within each, are:

CONVERGENCE: IP phones, unified messaging wares, voice/video collaboration services, VoIP analysis suites, VoIP services. (Potential ad slogan, compliments of Yellow Pages: "Let your fingers do the walking.") PAGE 40.

INFORMATION MANAGEMENT: Enterprise data search engines, storage gear, storage management software. (Potential ad slogan, compliments of Wendy's: "Where's the beef?") PAGE 44.

MESSAGING: Anti-spam products, e-mail encryption wares, e-mail platforms. (Potential ad slogan, compliments of Hallmark: "When you care enough to send the very best.") PAGE 46.

NETWORK INFRASTRUCTURE: Application-acceleration devices, content switches, servers, switch/routers. (Potential ad slogan, compliments of Federal Express: "Absolutely, positively overnight.") PAGE 48.

NETWORK MANAGEMENT: Frameworks, IP address management, server management, Web site usability and management. (Potential ad slogan, compliments of Burger King: "Have it your way.") PAGE 50.

SECURITY INFRASTRUCTURE: Firewalls, intrusion-detection systems, security appliances, SSL VPNs. (Potential ad slogan, compliments of Timex: "Takes a licking and keeps on ticking.") PAGE 52.

SECURITY MANAGEMENT: Group policy administration tools, identity management products, network forensics tools, patch management tools, vulnerability alerting services. (Potential ad slogan, compliments of the Bounty brand: "The quicker picker-upper." PAGE 54.

CLIENT SECURITY: Anti-spyware products and services, endpoint security products. (Potential ad slogan, compliments of Visa: "It's everywhere you want it to be.") PAGE 38.

WIRELESS: Access points, handheld devices, management wares, routers, switches. (Potential ad slogan, compliments of United Airlines: "Fly the friendly skies.") PAGE 56.

From the pool of 48 finalists, we selected those that were the "simply the best" in each category based on the product's overall usefulness when deployed in a large-scale network. Those having multiple tools for getting the job done right carried more weight in our final analysis than point products honed for a single task. (There are 10 winners because we named two in the too-close-to-call Convergence category.)

Go on, read about all of them. In fact, we "betcha can't eat just one," because this package simply is "good to the last drop."

ONLINE SPECIAL:
Get detailed results and in-depth test analysis of all Best of the Tests winners and finalist. www.nww.com, **DocFinder: 2357**

═══ { MORE BEST PRODUCTS INSIDE } ═══

☐ The dream OS
An OS tester fantasizes about building the best, most stable server operating system. **PAGE 63. ONLINE SPECIAL:** Jump into a conversation with your peers and OS tester Tom Henderson about what features and functions would be in your dream operating system. www.nww.com, **DocFinder: 2353**

☐ What to know before you buy
Consider these testers' tips before making your next network purchase. **PAGE 66. ONLINE SPECIAL:** From anti-spam to wireless LANs, use our up-to-date interactive buyer's guides to get the latest vendor specs in 15 product areas. www.nww.com, **DocFinder: 2321**

☐ Going above and beyond
Selected by *Network World* columnists, these five products raise the bar with novel ways to solve today's enterprise challenges. **PAGE 70. ONLINE SPECIAL:** Intrigued by these category-breaking products? The columnists go into more depth about why they picked the products they did. www.nww.com, **DocFinder: 2358**

☐ Fave raves
Five products readers say they can't work without. **PAGE 74.**

☐ Blogs worth mining
The best vendor blogs contain hidden corporate and product gems. **PAGE 81. ONLINE SPECIAL:** Test how well you know your vendor bloggers by matching up blog excerpts to their sources. www.nww.com, **DocFinder: 2354**

THE Signature SERIES

Client Security *(Anti-spyware, endpoint security)*

☐ WINNING COMPANY > **McAfee** ☐ WINNING PRODUCT > **Secure Web Gateway**

Last year we put a magnifying glass to products aimed at protecting client-side connections across the enterprise. That effort seemed to strike a chord, as two of our most-talked-about tests were those that honed in on anti-spyware products, as well as endpoint security and policy enforcement wares.

Because spyware and other malicious software are so potentially damaging to a company, we are glad to award the Best of the Tests honor to McAfee and its Secure Web Gateway. In our anti-spyware test of 18 products, the McAfee Secure Content Management Appliance (Secure Web Gateway) impressed Lab Alliance member Barry Nance for thwarting the most spyware attempts, as well as for its intuitive user interface and simple installation (www.nww.com, DocFinder: 2323). The system uses a malware detection scheme plus signatures to block spyware proactively, and it updates daily with new protections.

Additionally, we felt the appliance approach to fighting spyware gives Secure Web Gateway the edge over software-based systems. "Stopping spyware via gateways at each Internet connection point is clearly superior to cleaning it from individual server and desktop computers," Nance wrote. He further noted that a "gateway is easier to administer, users can't fool with it, and desktop machines and servers don't have to shoulder the extra burden of detecting and removing spyware. As long as a gateway filters every single crumb of spyware and users do not bring freeware or shareware software into the office, the gateway approach is an ideal anti-spyware solution."

McAfee has not updated the Secure Web
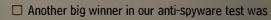
Gateway since our testing, but has announced other client security-related products. In late 2005, the company announced it will provide VirusScan and McAfee Personal Firewall Plus to subscribers of MSN Dial-Up (McAfee already provides services to MSN Premium subscribers). VirusScan detects, blocks and removes spyware — as well as virus, worms, Trojans and auto-dialers, the company says.

In January, McAfee President Gene Hodges resigned, leaving the company to become CEO of WebSense.

☐**FUTURE TESTS:** We expect another round of anti-spyware tests in 2006. We're especially looking to test gateways that aim to protect against spyware, viruses and potentially other damaging code. We'll also test products for network-access-control architectures as part of our exclusive coverage of the Interop Labs taking place at the Interop show in May.

McAfee's Secure Web Gateway appliance handily thwarted spyware.

APPROVED FOR NETWORK USE
FEBRUARY 27, 2006
★ **CERTIFIED BEST** ★
BY THE
NETWORK WORLD LAB ALLIANCE

SCM 3300

McAfee

CLIENT SECURITY FINALISTS

☐ Another big winner in our anti-spyware test was **Omniquad's AntiSpy Enterprise,** with its client/server approach to solving problems (DocFinder: 2323). "Stopping spyware at the gateway might not be enough, especially if users bring freeware or shareware into the office…. Using both gateway and client/server products can potentially increase your success rate at avoiding spyware," tester Barry Nance noted. In our test, Omniquad stopped a high percentage of spyware instances and removed all spyware residue. It won points for deploying client agents easily and automatically from a central console, which also stored configuration and policy data in Active Directory.

☐ Vernier Networks and PatchLink earned a finalist spot for their combined entry in our endpoint security test (DocFinder: 2324). **Vernier's EdgeWall 7000i** and the **PatchLink Update Server** proved a winning arrangement for sound performance in all categories tested, said Lab Alliance members Mandy Andress and Rodney Thayer. The combo excelled in remediation, providing the ability to block network access and automatically fix out-of-compliance systems, and it was the most resilient of the packages tested.

☐ **Senforce Technologies' Senforce Endpoint Security Suite** (DocFinder: 2324) earns a nod for its strong host-centric approach to endpoint security, as it uses only client software and doesn't require an additional in-line network device. The product gets special attention for its Client Location Assurance Service, which provides crypto-based assurance that a system resides on a known, trusted network and is not being spoofed. This innovation gives users and administrators reasonable assurance that systems are on a trusted network.

☐ **Trend Micro** earns a finalist spot for two entries. **Network VirusScan** and **OfficeScan 7** impressed us in the endpoint security tests with how easily the VirusWall 2500 device installed — "one of the best overall experiences we had during testing," the testers noted (DocFinder: 2324). In our anti-spyware tests, **OfficeScan Anti-Spyware Suite** and **InterScan Anti-Spyware Suite** did well (DocFinder: 2323). Trend Micro earned kudos for OfficeScan's ability to provide considerable details about each spyware instance encountered and presented the data in a variety of helpful reports.

:PRODUCT MASTERMIND:

☐ **Mihir Mohanty,**
senior product marketing manager

JOB DUTIES: Plans McAfee's Web security products strategy. FAVORITE FEATURES: "The layered approach to attacking spyware — the McAfee Secure Web Gateway stops spyware at the corporate gateway before it gets to the desktop. But if spyware does

happen to make its way to the desktop via other network connections, McAfee offers a desktop spyware product to stop it there."

:USER TAKE:
☐ **Oliver Tsai,**
IT director, Sunnybrook and Women's College Health Sciences Centre, in Toronto

DEPLOYMENT: Sunnybrook & Women's is in the process of expanding its use of Secure Web Gateway, which it has relied

on for more than four years. FAVORITE FEATURE: "The effectiveness — we have had practically zero virus incidents since the implementation, and spam is limited to a mere handful each day." BUSINESS BENEFITS: "The most significant benefit of [Secure Web Gateway] has been protecting our employees' productivity from unnecessary downtime and meaningless information from viruses and spam."

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Convergence (*IP phones, unified messaging wares, voice/video collaboration services, VoIP analysis suites, VoIP services*)

☐ WINNING COMPANY > **ClearSight Networks**   ☐ WINNING PRODUCT > **ClearSight Analyzer**
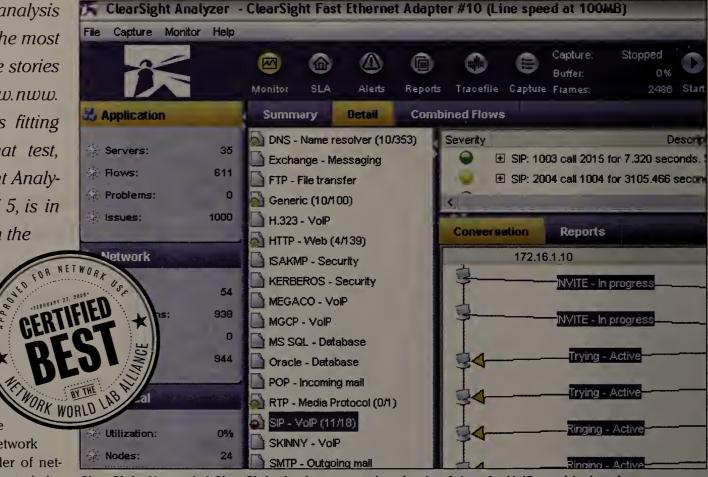
Our test of VoIP analysis tools was one of the most widely read online stories last year (www.nww. com, DocFinder: 2341). So it's fitting that the top performer in that test, ClearSight Networks' ClearSight Analyzer, with a score of 4.7 out of 5, is in one of the two winning spots in the Convergence category.

In this Clear Choice Test, we evaluated products aimed at helping VoIP network managers monitor and troubleshoot IP telephony environments and ensure call continuity. ClearSight Analyzer warranted high praise for its extreme ease of use and its capability to analyze a wide range of VoIP protocols. Ed Mier, a Network World Lab Alliance partner and founder of network test consultancy Miercom, conducted the testing of this burgeoning product class.

In our tests, ClearSight's software-only Analyzer ran on a Windows XP laptop, where it sniffed passing traffic and captured all the packets traveling on the network. The product then analyzed the VoIP traffic and associated the VoIP-specific packets with the proper conversation.

Miercom gave the ClearSight Analyzer high points for its ability to serve up pertinent, real-time facts. These include caller destination, vocoder in use and other details about current VoIP calls, bandwidth consumption, IP addresses of key VoIP nodes and endpoints, and latency, jitter and packet loss for VoIP calls between two distributed sites.

ClearSight Networks' ClearSight Analyzer served up loads of data for VoIP troubleshooting.

While we tested ClearSight Analyzer 4.0, the company rolled out Version 5.0 last month. In that new bundle, ClearSight added real-time application and protocol support for Citrix Terminal Services, Microsoft Exchange and the Real Time Streaming Protocol; HTTP flow reassembly; and support for Wi-Fi packets on Ethernet with Wired Equivalent Privacy decryption and new video and voice codecs.

Analyzer 5.0 includes a variety of new setup wizards and configurable reporting functions. With an optional History Reporter, users can track VoIP issues over time.

On the business side, privately held ClearSight completed two big distribution deals with Tadiran Telecom and Interactive Intelligence. Both of these VoIP providers have chosen to bundle ClearSight Analyzer with their product and services offerings.

ClearSight's leadership changed hands recently with the appointments of Masaru Gomi as CEO, Osamu Tomita as vice president of marketing, Vic Forgetta as vice president of North American sales and Tim O'Neill, one of the original employees, as vice president of business and technology development.
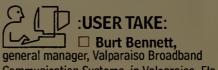
CLEARSIGHT ANALYZER

:PRODUCT MASTERMIND:

☐ **Samuel Li,**
vice president of engineering and technology

JOB DUTIES: Li manages a development team of 20 engineers and oversees the quality-assurance lab. In the bigger picture, Li takes the require-

ments expressed by customers as well as new technology demands and tailors the product to match them. FAVORITE FEATURES: "The real-time view of actual applications communicating between the users, VoIP nodes and servers throughout the network. The ability to, in one simple view, determine if there is a network issue, a server issue, an application

issue or an issue with a user misusing the network or application."

:USER TAKE:
☐ **Burt Bennett,**
general manager, Valparaiso Broadband Communication Systems, in Valparaiso, Fla.

DEPLOYMENT: Has been using ClearSight

Analyzer for about six years. FAVORITE FEATURE: "My favorite is the GUI, and favorite capability [is] the filter creation." BUSINESS BENEFITS: "[We] have benefited by being able to easily identify network traffic and problems in real time, [which] ... leads to cost-effective network management."

MYTH #31: MULTIPLE PHONE NUMBERS ARE A HASSLE EVERYONE HAS TO LIVE WITH.

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Convergence

WINNING COMPANY > **Interwise**

WINNING PRODUCT > **iMeeting and Enterprise Connection**

gnoring the 4.8 out of 5 points Interwise received for its Enterprise Connection Platform (since renamed ECP Connect) and iMeeting application would be awfully tough.

In last year's global test of voice and videoconferencing services and products, Lab Alliance member Christine Perey lauded Interwise for its "rich feature set, yet easy-to-use Web conferencing service. It delivered a flawless performance every time we initiated a rich-media meeting with people who had (and who hadn't) previously downloaded the software and offered optimal levels of management and security for enterprise IT managers" (DocFinder: 2342).

The ECP Connect system offers responsive desktop-, application- and file-sharing for people on networks with different bandwidths, and had well-integrated whiteboard tools, co-browsing and simple polling. Even the video over IP feature was flexible in an ECP-based meeting, though this feature did need some work (hence the 0.2 deduction off a perfect score).

Since our testing, Interwise has added many features to the ECP Connect service. The ECP Connect for Web conferencing includes a fully integrated voice-conferencing capability. The company says this can help reduce voice-conferencing costs on average between $150 and $200 per person, per year. Users can access a voice conference via TDM or VoIP (telephones, headsets or desktop speakers and microphones) and then escalate to a Web conference for the fixed price and unlimited usage that Interwise offers.

Other new features include My Meeting Room (which gives access to a personal, secure meeting room for ad hoc Web or voice conferences); integrated on-site or hosted service deployment options and integration with single sign-on and reverse proxy systems. Certification with Nortel's Communication Server 1000 is expected this quarter.

☐ **FUTURE TESTS:** In addition to our recently published test of how VoIP traffic is supported by SSL VPNs (DocFinder: 2335), our 2006 lineup includes a comparative test of enterprise session border controllers and another round of VoIP analysis tools testing. We'll also do a roundup of gear that can handle VoIP over wireless communications and assess the overall state of VoIP over wireless.

APPROVED FOR NETWORK USE — FEBRUARY 27, 2006

CERTIFIED BEST

BY THE NETWORK WORLD LAB ALLIANCE

New features to iMeeting include an integrated onsite or hosted service deployment option.

CONVERGENCE FINALISTS

☐ **Aastra Technologies' VentureIP** all-in-one, peer-to-peer, IP-based phone system earned its Best of the Tests stripes in a stand-alone test conducted by Test Alliance partner Miercom. VentureIP offers a full spectrum of enterprise telephony features, serves up reliable service and good call quality and has an impressive autoconfiguration capability. Because the product does not use an expensive central PBX or server, small-to-midsize enterprise deployments could realize a significant savings over alternatives (DocFinder: 2343).

☐ **Avaya's Modular Messaging System** and **Unified Communications Center** and **Siemens Communications' HiPath Xpressions** made this year's convergence short list based on the outcome of our VoIP-based unified messaging Clear Choice Test. In this test, Miercom engineers examined what major VoIP vendors offered up the best PBX-based software providing efficient, consolidated, hands-free access to voice mail and e-mail via any phone device, situated anywhere. Avaya topped the competition because of its well-done Web interface to unified e-mail and voice mail, superior voice-recognition interface, and outstanding text-to-speech accuracy and performance. Siemens placed a close second, as its major strengths are exceptional administrative access to the unified messaging environment, a very good Web interface to unified e-mail and voice mail, and tailored voice-recognition options. (DocFinder: 2344).

☐ The seven remaining finalists in this category earned exceptionally high scores in the crowded Web-conferencing field. We tested these products on the Internet across three continents (DocFinder: 2342). **Raindance Communications' Raindance Meeting Edition** demonstrated very high availability and reliability, served up high-quality video and offered well-integrated public switched telephone network audio. **WebEx Communications' Meeting Center** was extremely easy to learn and use, proved to be very well integrated with Microsoft Office applications as well as Microsoft services (including MSN), was highly responsive and offers excellent multilingual support. **WebDemo Hosted,** from **Inter-Tel division Linktivity**, received a top score because of its complete Office and browser integration for scheduled and ad hoc meetings, the ability to change screen-color depth during presentation and its multilingual support. **Convoq's ASAP Pro 2.0** was a strong finisher, because getting into a meeting using this service is very easy and flexible. It has excellent support for media-sharing and collaboration, and has ubiquitous use of Flash. **Elluminate's Elluminate Live! Team Edition** picks up kudos for its equal application-sharing support across Windows, Macintosh and Linux and well-supported recording and playback capabilities. **Centra 7 eMeeting from Centra Software** (acquired Feb. 1 by Saba) provides good scheduling/invite integration with Outlook, e-mail and instant messaging; has highly developed recording feature and offers a complete meeting management tool palette, including an excellent crowd management system. **Santa Cruz Networks' VidiTel** gets a wave for providing high-quality video and full-duplex audio, and offering a highly integrated presence and IM-enabled directory that lets users readily see each other.

IMEETING AND ENTERPRISE CONNECTION PLATFORM

:PRODUCT MASTERMIND:

☐ **Neil Lieberman,** vice president of product management and marketing

JOB DUTIES: Lieberman assesses market dynamics, customer requirements and technology developments to determine product requirements. FAVORITE FEATURES: "It's a tie between two features. First is the ability to seamlessly move between traditional TDM audio and VoIP within a meeting — and be automatically identified and bridged in by

the technology. . . . My other favorite feature is that we integrate our premises software and hosted service into a single, integrated hybrid deployment. This helps enterprises move forward with onsite conferencing technology, but at a worry-free pace. Once using on-site, the savings are tremendous — think of a company spending $2 million a year on Web and voice conferencing. We are able to cut that in half."

:USER TAKE:

☐ **Shawn Derifield,** director

of systems training and global support center, International Game Technology, in Reno, Nev.
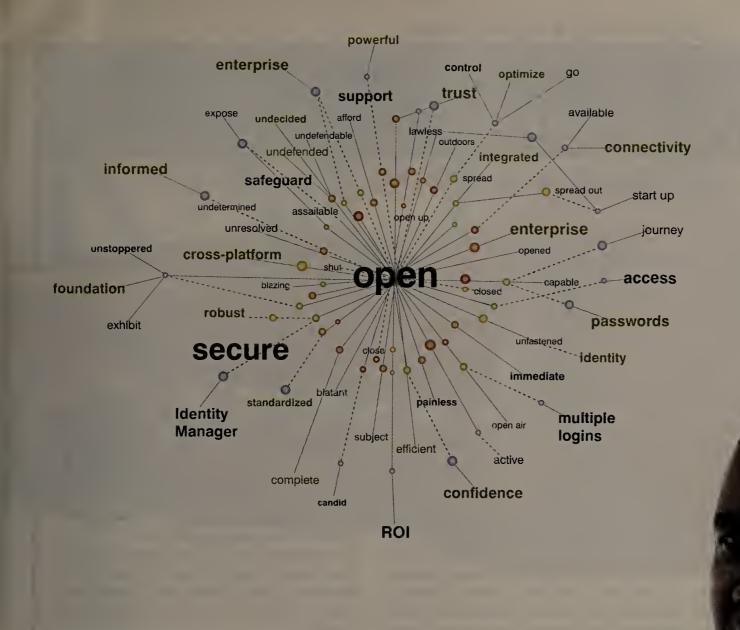
DEPLOYMENT: Began using the Web conferencing service four years ago for Web meetings. Now uses iMeeting for online employee and customer training, live instructor-led training, and brainstorming and strategic planning meetings. FAVORITE FEATURE: "VoIP and the strength of the voice quality, and the integra-

tion of all the connectivity pieces. It doesn't matter if we have people on the road, on cell phones or at their desktop using their computers. With the new technology, users can pretty seamlessly choose between those media."

BUSINESS BENEFITS: "The main benefit has been responsiveness to the customer. We can provide them a learning solution no matter where they're at or what time of day it is."

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Information Management *(Enterprise data search engines, storage gear, storage management software)*

☐ WINNING COMPANY > **Google** ☐ WINNING PRODUCT > **Google Search Appliance**

IN what used to be a category strictly applied to storage gear, we now include new and interesting products that can help enterprises navigate data sitting on storage gear. The Google Search Appliance — our winner in this newly designated Information Management category — is a case in point.

Our test showed that Google has successfully packaged its popular Internet search technology into an easy-to-use search engine for corporate intranets and public-facing business sites (www.nww.com, DocFinder: 2336). However, the new enterprise-focused Google Search Appliance could use a bit of polish to make it more appealing to veteran network professionals.

Network World Lab Alliance partner Thomas Powell gave the search tool 4.35 out of 5 points, saying the appliance is easy to configure and maintain. He also liked it because of the underlying, highly accurate, crawler-driven engine. The crawler is capable of indexing 220 types of content. "We saw no limitation in the crawler and found that the device tended to dis-cover files that we were not aware of in some test data sets," Powell notes.

Since we tested the appliance last summer, Google released updated versions of the box focused on performance and scalability. All appliance models received enhancements in crawl speed, processing and query volumes, while the clustered models (specifically the GB-5005 and GB-8008) also were upgraded to support greater document capacities.

Google says it will roll out another software upgrade later this year aimed at improving the user experience. The upgrade should improve search quality and speed, increase the types of searchable content, and boost the types of authentication and authorization systems with which the

The Google Search Appliance offers an unbeatable crawler.

appliance can interoperate, the company says.

Google's Enterprise division experienced strong market growth last year, amassing about 50 new customer installations. Among corporate users are the city of Toronto, in Canada; DuPont, ING, Ingersoll Rand and the Ministry of Defense in the United Kingdom.

In terms of corporate maneuverings, the company in September launched the Google Enterprise Professional program, a channel of system integrators, consultants and independent software vendors offering products and services that work on top of the Google Search Appliances. In October, Google hired Vint Cerf — widely recognized as "the father of the Internet" — as chief Internet evangelist.

☐**FUTURE TESTS:** We will continue our expansion of this category with comparative tests of enterprise search engines and e-mail archiving products. In addition, on tap are tests of discovery, inventory and storage device-management products, information life-cycle management wares, and local and remote software replication software.

INFORMATION MANAGEMENT FINALISTS

☐ **Infrant Technologies' ReadyNAS 600 and Anthology Solutions' Yellow Machine** earned finalist designations because of their performance as network-attached storage (NAS) devices aimed at small or midsize businesses (DocFinder: 2337). Lab Alliance member James Gaskin gave Infrant's ReadyNAS 600 high points for its clean administration, flexible deployment options and far-reaching client support. He also lauded Anthology Solutions' Yellow Machine for providing a complete network in a box. This taxicab-yellow NAS box adds router and firewall features to its resume, as well as provides server-based backup for all clients connected to it — and it does everything fairly well, Gaskin said.

☐ **Buffalo Technology's TeraStation** earned its finalist stripes by offering so much storage for so little price, Gaskin noted (DocFinder: 2338). The storage afforded by this sleek silver-cased product — even when configured for RAID-5 and the highest performance and fault-tolerance the company offers — only costs $1.25 per gigabyte. This level of terabyte storage space, reliability and performance has never been so affordable.

:PRODUCT MASTERMIND:

☐ **Matthew Glotzbach,** senior product manager, Google Enterprise

JOB DUTIES: Oversees the Google Enterprise product management and marketing team; handles the overall product vision and ongoing development road map of the Google Search Appliance.

FAVORITE FEATURE: "The search user experience. As a user of the Google Search Appliance, I can go to a simple, clean interface, type in a few keywords, and in less than a sec-ond get back relevant, secure search results. I get an experience just like Google provides me on the Internet, including spelling correction, cached pages and dynamic snippets."

:USER TAKE:

☐ **Greg Rhodes,** senior Web developer, PLATO Learning, in Bloomington, Minn.

DEPLOYMENT: Launched Google search on www.plato.com in September 2005; since then, integrated the search capability into the customer support Web site and the intranet. FAVORITE FEATURE: "The built-in relevancy ranking and the server's flexibility. The relevancy ranking is unparalleled in the industry. As for flexibility, we are able to use a single box to deliver search results to three different sites, with three different sets of documents. I was able to customize the search results to be truly seamless with each of the sites. In addition, we were able to deliver public results on two of the sites, while maintaining the security of the private documents on our intranet."

BUSINESS BENEFITS: "The largest ben-efit is the impact it's made on our intranet. With nearly 20,000 documents, findability of information was a huge problem for us, and our previous search engine just wasn't helping. But now, employees can usually find what they are looking for through the search engine. The second most significant benefit that we've experienced is with our customer support Web site. Finally, we are able to integrate Web page content, PDF documents and PeopleSoft-driven Knowledge Base data into a single search engine with advanced filtering capabilities."

Messaging *(Anti-spam software, e-mail encryption, e-mail platforms)*

☐ WINNING COMPANY > **CipherTrust** ☐ WINNING PRODUCT > **IronMail appliance**

IF *you don't think messaging is imperative to your business, take away the mail server for a few days and see how many calls you get from employees. Better yet, think of how you accomplished your job before e-mail. (We remember something about telephones, fax machines, paper memos. . . .)*

Back to reality. In 2005, we looked closely at the security of messages crossing the network. We tested some e-mail encryption products that bolt onto e-mail systems and others that provide new features for the encryption-savvy (www.nww.com, DocFinder: 2339).

CipherTrust's IronMail appliance won the e-mail encryption product test as well as the Best of the Tests Messaging category. The appliance provided strong encryption delivery performance and incredibly easy installation, garnering a score of 4.1 out of 5. "We were up and running with a base configuration in minutes," said Network World Lab Alliance member Travis Berkley. Installation is easy because CipherTrust delivers appliances, pre-configured to your specs, that are simply slipped into a rack and turned on, he said.

Also impressive, Berkley noted, is that a customer can take its corporate brand (logo, colors, Web design) and redraw the CipherTrust interface to match that corporate look and feel.

While the test focused on CipherTrust's gateway-to-user e-mail encryption using its staging-server module, the company also offers gateway-to-gateway encryption. This latter method can be best for supporting standards and securing ongoing business relationships, such as with partners and customers, as well as in supporting multiple technologies, such as SSL/Transport Layer Security, Secure Multi-purpose Internet Mail Extensions and OpenPGP.

Since our test, CipherTrust launched Trusted-Source Portal (www.trustedsource.org), a free resource that offers precise information about an e-mail sender's reputation by domain and IP address. It also launched IronMail Version 6.0 (we tested Version 5.0.1), which provides deeper integration with TrustedSource, has enhancements to outbound messaging-security features (including dictionary correlation and customized reports), offers customizable dashboards and has tighter ties with Active Directory.

In October, the company launched IronIM, a security gateway appliance for instant messaging. IronIM integrates policies to help secure, log, monitor and encrypt corporate IM communications.

The company also shipped its IronNet gateway, a real-time, multiprotocol system that enforces common corporate policies across e-mail, instant messaging, Web mail, peer-to-peer technologies and other FTP- and HTTP-based activity. IronNet is targeted to reduce the liability "related to the exchange of offensive content" and help with compliance regulations.

CipherTrust also opened West Coast headquarters in Sunnyvale, Calif., to provide customers with increased access to research and engineering, as well as sales and customer support resources.

☐**FUTURE TESTS:** Tests of anti-spam tools and anti-virus gateways are strong possibilities for 2006. Plus, we want to see if enterprise e-mail archiving systems are ready for prime time. Continued use of IM by employees also intrigues us — we'll likely test IM security vendors to see what's being done to monitor, manage and even prevent bad information from traveling the IM route.

The IronMail appliance delivered strong encryption.

MESSAGING FINALISTS

☐ **PGP's Universal Series 500** turned in high marks in our encryption test (DocFinder: 2339). The system supports extremely strong encryption (up to 4,096 bits for Triple-DES) and performs well in delivering encrypted e-mails.

☐ For anti-spam, **Symantec's Mail Security 8100 Series appliance** (DocFinder: 2340) got our nod. The 8160 model we tested limits the amount of network bandwidth that spam can consume. "When the bits start flying, it manages the load on corporate mail servers quite well, providing a good first line of defense in reducing the amount of spam that enters the network," said Lab Alliance member Joel Snyder. The system's ability to handle 850 messages per second, along with its easy integration into an existing network topology, earned this product a finalist spot.

:PRODUCT MASTERMIND:

☐ **Paul Judge,** CTO

JOB DUTIES: Manages research, advanced product development and product management; lead inventor of CipherTrust's patent-pending security technologies. **FAVORITE FEATURE:** Ease of use. "While the mathematics behind the cryptography and key management is interesting, what makes this product exciting is that we figured out a way to hide all of that from administrators and users. In the past, I've seen situations where encrypting a message was too burdensome, so people would just send sensitive messages, even credit card numbers or medical records, in plain text. Now sending a message securely is easy enough that users and administrators are actually encrypting e-mail. . . . The other exciting thing is that CipherTrust Encryption can figure out that a message contains sensitive information and encrypt it even if the user forgets."

:USER TAKE:

☐ **Jim Donaldson,** corporate security and privacy officer, Baptist Health Care, in Pensacola, Fla.

DEPLOYMENT: Began using CipherTrust more than two years ago to protect communications between the health system and insurance companies, state agencies and the like. **FAVORITE FEATURE:** "If a secure link already has been established between our site and a recipient, then it will automatically send the e-mail over that link without first sending it to a secure delivery site. So this is a good feature because it eliminates a step for the receiver." **BUSINESS BENEFITS:** "This has helped with regulatory compliance — we now have an avenue to communicate electronically and retain the bounds of reasonable standards to protect the information. And it helps with auditing; we know who sent what and who came to get it."

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Network Infrastructure *(Application-acceleration devices, content switches, servers, switch/routers)*

☐ WINNING COMPANY > **Cisco** ☐ WINNING PRODUCT > **Catalyst 4948-10GE**

Some of the first tests Network World *conducted more than a dozen years ago were on what would now be called very low-end servers and switches — those with only one slow CPU and 10Mbps network connections. Judging by the features of this year's Best of the Test Network Infrastructure winner — Cisco's Catalyst 4948-10GE with its 48 copper Gigabit Ethernet and two 10G Ethernet ports — you can't help but realize that we've all come a long way (www.nww.com, DocFinder: 2345).*

In this stress test conducted by Network World Lab Alliance member David Newman, the Catalyst 4948-10GE came up aces in all configurations. These involved Layer 2 and 3 switching, virtual LANs and Open Shortest Path First routing. The Catalyst 4948-10GE delivered record low latency, hovering in the range of 4 microsec for most frame lengths, and line-rate throughput of as many as 101.19 million frames per second.

Newman commended Cisco on its work in the security arena, too. The box sports standard, competitive security measures such as support for 802.1X user authentication, Secure Shell v2 for remote access and access-control lists. The switch offers many other security features, as well. The port security feature allows the switch to learn the media access control (MAC) addresses of attached hosts, even across reboots, preventing spoofing and boosting reliability. DHCP snooping enables the switch to listen for and reject responses from rogue DHCP servers. The IP source- guard feature builds on DHCP snooping to prevent an attacker from using a legitimate user's IP address to inject spoofed traffic.

Since our test, Cisco has added support for Network Admission Control so that the switch could work with the Cisco-based NAC scheme to lock out or quarantine client machines that do not meet corporate security policy standards.

On tap for the Catalyst 4948-10GE are the addition of Web Cache Commun-ication Protocol v2, a Cisco-developed content-routing technology that enables Layer 3 switches to redirect content requests to appropriate back-end caching engines, and support for the Virtual Router Redundancy Protocol Cisco says. This protocol allows a group of routers to function as one virtual router by sharing one virtual IP address and one virtual MAC address.

On the business side, Rajiv Ramaswami became vice president and general manager for the Gigabit Systems Business Unit and the Transceiver Module Group, where he is responsible for Cisco's midrange Ethernet switching and optical modules businesses. Previously, Ramaswami led Cisco's optical business.

☐**FUTURE TESTS:** In addition to having conducted the first public test of Web front-end devices (results published last month, DocFinder: 2349), our plans include testing single switch/routers and server configurations that piqued our interest with new levels of power and feature sets.

NETWORK INFRASTRUCTURE FINALISTS

☐ **IBM's IBM x336 PC-based server** earned a spot on our top performer's list in this category because Lab Alliance member John Bass was impressed with its solid performance, great physical design and wide set of management features (DocFinder: 2346). The server's single-rack space form should be attractive for enterprise applications where two-processor servers are needed but space is a premium, Bass said.

☐ Sun earned two finalist rankings in this category. The **Sun N2120V content switch** picked up kudos from tester David Newman for its good performance, with support for as many as 1.25 million concurrent connections and as many as 230,000 new connections set up each second. This makes the Sun box a fit for all but the very largest data centers. The key differentiator is the N2120V's ability to let users define multiple switching and routing domains on a single box (DocFinder: 2347).

☐ **Sun's SunFire T2000 server** is powered by the first-ever eight-core UltraSPARC chip, based on Sun's reduced instruction set chip UltraSPARC T1 architecture all packed into a 2U-high, 385-watt server (DocFinder: 2348). Lab Alliance member Tom Henderson found the T2000 to be unusual (in a good way) in that it gave performance numbers unmatched for the power and space it consumes.

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When stress-tested, the Catalyst 4948-10GE came up aces in all configurations.

:PRODUCT MASTERMIND:

☐ **John McCool,** senior vice president and general manager for the Internet Systems Business Unit

JOB DUTIES: Had been general manager of Cisco's Gigabit Systems Business Unit, where he was responsible for products and technology, including the profit/loss margins of the line. He has since been promoted. FAVORITE FEATURE: "The single ASIC chipset design of the Catalyst 4948 series, because it provides ultra low latency, which optimizes this product for server aggregation."

:USER TAKE:

☐ **Linda Beavers,** IT WAN officer, Riverside County, in Riverside, Calif. DEPLOYMENT: Recently added the switches to build up the throughput of the data transfer to 10Gbps. "We process financials and heavy records through this system, to which every organization has to have access." FAVORITE FEATURES: Because of its scalability, it "affords us the opportunity to upgrade at our leisure [to support] servers performing at 1G transfer rates." BIGGEST BENEFITS: These are "improved management and support of the devices and increased reliability for faster connectivity and throughput for the county's overall processes to meet or exceed 24/7/365 uptime. It supports an enterprise application that must be available to 40-plus departments and agencies."

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Network Management *(Frameworks, IP address management, server management, Web site usability and management)*

☐ WINNING COMPANY > **HP** ☐ WINNING PRODUCT > **OpenView Network Node Manager, OpenView Operations, OpenView Internet Services**

While this category has ballooned to include IP address management and Web site management, in picking the winner we stuck with the basics of what constitutes network management and awarded HP's OpenView Network Node Manager, OpenView Operations and OpenView Internet Services the Best of the Tests honor.

In our early December 2005 test, Network World Lab Alliance member Barry Nance wrote that HP's framework express system excelled in network discovery, root-cause problem analysis, task automation, responsive and intuitive user interface, and scalability (www.nww.com; DocFinder: 2327). In particular, Nance was impressed by HP's Advanced Intelligent Diagnosis for Networks, which he pointed out "was especially helpful in zeroing in on a specific device that was causing an outage or performance problem." The system's path-analysis capability earned kudos for helping pinpoint problems and performance degradations involving our test networks' pathways and linkages.

Nance also lauded the OpenView Internet Services module, which "excelled at tracking Web transaction-oriented [service-level agreement] violations." The system could note availability and response-time details from general Web access to particular e-mail commerce transactions, as well as send alerts when those SLA parameters were exceeded.

Since our testing, HP has added to the OpenView portfolio. New OpenView Management Software, unveiled in early December, includes the OpenView Dashboard 1.0 (software for building a personalized, real-time view into the health of critical business and IT services); OpenView Business Process Insight 2.0 (monitors and reports business process health and predefined metrics); OpenView Service Desk integration (designed for closed-loop operations to reduce costs and automate IT response to business needs); and OpenView Short Engagement Services (onsite consulting services).

HP also made a few acquisitions at the tail end of 2005. It acquired Trustgenix to help bolster identity management within OpenView. With the Trustgenix technology, the company should extend the federation capabilities of HP OpenView so enterprise customers can give business partners secure access to information residing on different systems, HP says.

With its acquisition of Peregrine Systems, HP picked up technology for asset tracking, process automation, enterprise discovery and business continuity and consolidation management.

☐ **FUTURE TESTS:** We are always interested in network analysis software. We also plan to test WAN acceleration/optimization products, and desktop and server configuration management tools.

HP OpenView offered first-rate system path analysis.

CERTIFIED BEST — APPROVED FOR NETWORK USE — FEBRUARY 27, 2006 — BY THE NETWORK WORLD LAB ALLIANCE

NETWORK MANAGEMENT FINALISTS

☐ In our IP address management test (DocFinder: 2328), **Lucent's VitalQIP** hung on as king of the jungle. We named VitalQIP a finalist for its fast performance, scalability and feature-rich options for dealing with IP addresses. The Lucent software "is an enterprise-ready tool to organize and manage virtually any set of IP addresses, no matter how large or complex," Lab Alliance's Nance said.

☐ In the same test (DocFinder: 2328), **MetaInfo** earned the final nod for its **Meta IP Enterprise system.** The system offers excellent security and reporting features, as well as flexible IP address management, Nance said. In particular, he liked how the Meta IP DNS service could closely integrate with Microsoft Active Directory — in our tests, we were able to use the Windows Active Directory wizard to easily link a domain controller to Meta IP.

☐ **Microsoft** gets a finalist nod for its **Virtual Server 2005** offering, which lets you run multiple instances of Windows on the same machine, based on a test conducted by Lab Alliance member Tom Henderson (DocFinder: 2322). Microsoft's foray into server consolidation, via technology it picked up with a 2003 purchase of Connectix, is proving worthwhile, Henderson said. Along with the Virtual Server Migration Kit, Virtual Server 2005 "provides a way to gracefully move and consolidate older Windows NT and 2000 Server applications onto newer (and ostensibly higher-capacity) hardware."

☐ **TechSmith** earned a finalist spot for its **Morea** software, which improves the Web page usability testing process for companies. Lab Alliance member Thomas Powell found that Morea can "help collect some valuable data concerning how easily users can — or can't — navigate your site" (DocFinder: 2330). The software leverages its experience with screen recording and capturing methods found in TechSmith's popular SnagIt and Camtasia products.

☐ **Coradiant's TrueSight 1100 appliance** impressed us with its ability to actively monitor Web site traffic, giving a heads-up on the true health and performance of a Web site (DocFinder: 2331). It "acts as a smart microscope for Web administrators who want an in-depth look at their site's network traffic for incident resolution," Powell said.

:PRODUCT MASTERMIND:

☐ **Bob Steiner,** director, OpenView Network Services Management

JOB DUTIES: Steiner sets product direction across the OpenView portfolio. FAVORITE FEATURE: "The advanced problem analyzer, which enables rapid root-cause analysis of transient faults and performance problems in today's dynamic enterprise networks."

:USER TAKE:

☐ **Jim Livingston,** technology architect and director of the Data Resource Center at the University of Utah Health Sciences Center, in Salt Lake City

DEPLOYMENT: The Health Sciences Center began using OpenView in 1995, adding the Service Information Portal and Internet Services in 2005.

FAVORITE FEATURES: The ability to do service-oriented monitoring; integrate third-party monitoring products and "a powerful development platform." Also OpenView Internet Services "allows us to mimic the user experience." BIGGEST BENEFITS: "We can easily drill down through the service map to find problems."

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DATA SYSTEMS

Security Infrastructure *(Firewalls, intrusion-detection systems, security appliances, SSL VPNs)*

☐ WINNING COMPANY > **Juniper Networks** ☐ WINNING PRODUCT > **Secure Access SSL VPN Appliance**

Juniper Networks has gone two for two — Secure Access SSL VPN Appliance swept the competition in our December '05 test of 11 SSL VPN products as well as the finalists in this Best of the Tests category for the second year in a row (www.nww.com, DocFinder: 2350).

Network World Lab Alliance member Joel Snyder called the Secure Access SSL VPN Appliance "the best choice for most enterprise deployments from among the [SSL VPN] products we tested." The appliance posted high scores across all test areas, including access control, interoperability, manageability, user portal experience, high availability and authentication. Juniper received 4.5 out of 5 points.

In determining Juniper as the Best of the Tests winner, we also took into consideration reader interest in the blowout SSL VPN test, which had more than 70,000 Web hits in three weeks.

The Juniper appliance should make your short list for complex access-control environments, especially where there are difficult application-translation problems and extranet-focused line-of-business projects, Snyder said. Also impressive is Juniper's thinking in areas such as client efficiency (with its combination SSL VPN/IPSec VPN approach to remote access), and the extreme management and deployment flexibility of the Secure Access product, he added. "There's almost no SSL deployment where putting Juniper in would be a big mistake, an endorsement we don't give lightly," he said.

Since our test, Juniper has enhanced the endpoint defense capabilities by integrating Symantec's malware protection.
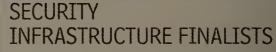
This lets users provide secure employee and partner remote access with increased protection from eavesdropping threats. The integrated malware protection is dynamically provisioned to the endpoint, so no client software needs to be installed on individual computers.

With its December acquisition of Funk Software, Juniper picked up technologies that protect the integrity of the network by ensuring both the user and the device meet an organization's security policies before they are granted access. This technology will be integrated into the SSL VPN appliances, Juniper says.

☐ **FUTURE TESTS:** This year, we've already taken an exclusive look at Juniper's new Secure Services Gateway 520 and 550 gigabit firewalls (DocFinder: 2363), and we'll continue to test new and interesting product twists in that market. We'll be pushing the performance of intrusion-prevention systems in late spring and testing the abilities of the new products on the market geared toward thwarting zero-day attacks.

This Juniper SSL VPN appliance rated high in all test areas.

SECURITY INFRASTRUCTURE FINALISTS

☐ **F5 Networks' FirePass 4100** and **Nokia's Secure Access System 500s** earned finalist spots for their performances in our SSL VPN test (DocFinder: 2350). The Firepass got high marks for providing easy, secure remote access to users, Snyder said. The product is a perfect fit for many environments, such as in cases of employee remote access where users are fully or partially trusted, he added. The Nokia SSL VPN impressed Snyder with its fine-grained access control. "If you're a security and control freak, Nokia's strategy should hit your comfort level," Snyder wrote. The SSL VPN should be especially interesting to enterprises that have settled on Nokia firewalls, with commonality to configuration and ongoing management parameters. Unlike most SSL VPN vendors, Nokia offers a heavy suite of services on the underlying appliance, such as IPSec, clustering and dynamic routing.

☐ **Check Point's VPN-1 Edge W** touts wireless access support, better performance and a new print server (DocFinder: 2351). Ties to Check Point's wider VPN product line also was a plus for this product. We tested VPN-1 Edge W with a Check Point NG firewall and were able to bring up a tunnel within a few seconds. An elegant feature of Check Point's overall VPN architecture is the dynamic pushing of network configuration, meaning that the Edge W doesn't have to be configured to know anything about the central VPN server besides its IP address and how to authenticate.

☐ **SonicWall's Pro 1260 Enhanced** earned finalist status for appropriately combining the brains of SonicWall's popular TZ-series firewalls with the body of a 25-port managed 10/100Mbps switch, Snyder said (DocFinder: 2352). Snyder also liked the revamped SonicOS software, which lets each firewall port be configured with its own security zone. You can set up an individual firewall for every system in a demilitarized zone, preserving the DMZ zone even if any one system sitting behind the firewall is cracked.

:PRODUCT MASTERMIND:

☐ **Sam Srinivas,** distinguished engineer

JOB DUTIES: Leads design and development of the SSL VPN products and technology advancement.

FAVORITE FEATURE: "The Content Intermediation Engine [also known as the rewriter], combined with our granular access control capabilities, continues to be the functionality that solves some of the most complex problems within VPN/extranet deployments. Customers have deployed our rewriter engine and dynamic access management functionality to securely extend application access to partners, customers and employees via a Web browser with no end-user changes, no software installation and no server/data-center modifications."

:USER TAKE:

☐ **Doug Torre,** IT director, Catholic Health System, in Buffalo, N.Y.

DEPLOYMENT: Implemented the Juniper SSL VPN appliance three and a half years ago because it had all the necessary functionality and a rapid ROI for its main application. This replaced an open source SSL VPN project under way. **FAVORITE FEATURE:** "The ability to aggregate, encapsulate and wrap all of our remote access without exposing individual IP addresses and network ports." **BUSINESS BENEFITS:** With the SSL VPN appliance, we get "easier and more secure remote access without a lot of user support hassles."

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BigIron RX-16

BigIron RX-8

BigIron RX-4

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Security Management

(Group policy administration tools, identity management products, network forensics tools, patch management tools, vulnerability alerting services)

☐ WINNING COMPANY > **Symantec** ☐ WINNING PRODUCT > **DeepSight Alert Services**

Four thousand six hundred seventy-five: That's the number of computer-related vulnerabilities the National Institute of Standards and Technology tracks and reports in its National Vulnerability Database. More than 1,800 of those are deemed to be of high severity.

Such is the reason we picked Symantec's DeepSight Alert Services as the Best of the Tests winner in this category. DeepSight performed tops in our test of vulnerability alerting services, which help enterprise security managers sort out which vulnerabilities will directly affect their networks and offer up remediation suggestions (www.nww.com, DocFinder: 2329).

Network World Lab Alliance member Mandy Andress found these services generally useful because they help filter the myriad alerts. With these services in place, IT security personnel can focus on crafting remediation plans rather than on combing through mailing lists and vendor sites for new alerts.

Symantec's DeepSight Alert Services (we tested Version 6.0), which the company picked up in its 2004 acquisition of SecurityFocus, came out as our Clear Choice winner with a 4.88 out of 5 rating. Specifically, it provided the most delivery options, offered very detailed reports, supported a plethora of alert category configuration options and registered very quick response times in that test, Andress found.

Symantec released DeepSight Alert Services 7.0 in January. This upgrade delivers new vulnerability, malicious code, spyware and adware alerts.

Symantec also recently announced plans to acquire IMLogic, maker of enterprise software for instant messaging. Following the acquisition, which is scheduled to close later this quarter, Symantec will immediately integrate IMLogic's

threat detection and remediation for IM into its early warning and response system. The software will augment the capabilities of Symantec Security Response, the company's security research center.

☐ **FUTURE TESTS:** This year we'll be looking at new classes of products, such as those that help define system security policy and identify systems out of compliance, and help security managers to take remediation actions. We'll test data leakage management products for the first time. And we'll also take several more passes at vulnerability assessment tools in a variety of smaller tests based on how the products attack the problem of pinpointing network holes.

Symantec's DeepSight Alert topped our tests with its detailed reports and quick response times.

This global map displays the number of firewall or IDS events reported by the DeepSight Global Sensor network during the last 24 hours. The events are aggregated to give a continental view of Internet events.

SECURITY MANAGEMENT FINALISTS

☐ In the vulnerability alerting services test, **Cybertrust's Alert Manager** placed a close second to **Symantec's DeepSite Alert Services** with an overall score of 4.5 out of 5 (DocFinder: 2329). While Alert Manager fell a bit behind in alert delivery options, it stood strong in terms of the type of vulnerability information it provided and the format in which that data could be served up to an enterprise security manager. Cisco acquired Cybertrust in November 2005, and renamed the product Intellishield Alert Manager.

☐ **Guidance Software's EnCase Enterprise** impressed Lab Alliance member Sam Stover for its enterprise incident-response and forensic capabilities, especially from a vendor traditionally focused on law enforcement (DocFinder: 2332). EnCase Enterprise's ability to help a network investigator establish relationships between open ports, open files, network connections, hidden files or processes and malicious network activity is the product's most useful functionality, Stover said.

☐ **NetIQ Group Policy Guardian** and **Group Policy Administrator** earned its finalist spot as the top performer in our test of products that build on top of Microsoft's Active Directory Group Policy administration to provide advanced assistance with access control, reporting, change management and security auditing functionality. NetIQ's two-product package earned our top honors based on its breadth of features, with specific prowess in auditing and change management capabilities (DocFinder: 2333).

☐ In a stand-alone test, **Thor Technologies' Xellerate Identity Manager** collected high grades from Lab Alliance member Mandy Andress for providing extremely flexible account provisioning mechanisms across a multitude of products and technologies, supporting even the most complex of business workflows (DocFinder: 2334). Oracle acquired Thor late last year, with plans to roll this product into its identity management suite.

:**PRODUCT MASTERMIND**:

☐ **Dee Liebenstein,** group product manager

JOB DUTIES: Liebenstein focuses on business case and customer requirements for DeepSight Threat Management System and DeepSight Alert Services, Symantec's early-warning solutions.

FAVORITE FEATURE: "The domain alerts feature is a favorite because targeted attacks are on the rise. This feature notifies an organization when its company domain is being specifically named in a malicious code payload. This proactive notification enables businesses to quickly take appropriate steps to mitigate the threat and protect themselves and their customers."

:**USER TAKE**:

☐ **Jim Jeffers,** chief business continuity officer, Cigna, in Philadelphia

DEPLOYMENT: Began using DeepSight Alert Services in March 2005, in conjunction with Symantec-provided managed security services. FAVORITE FEATURE: "The first is the analysis they provide throughout the

world. That gives us a pulse of what's going on, and we can leverage Symantec's real-time experience. Second are the different reporting capabilities." BUSINESS BENEFITS: "Basically, the biggest benefit is the ability to stay on top of things, adding to the intelligence we have to see what's going on in our environment."

Wireless *(Access points, handheld devices, management wares, routers, switches)*

WINNING COMPANY > **Aruba Networks** WINNING PRODUCTS > **A2400 and A800 switches and A61 access point**

O*ur voice-over-wireless test conducted early last year showed that providing just a small amount of data traffic on the same wireless network as voice traffic could lead to seriously degraded audio quality and dropped calls, even with QoS features enabled (www.nww. com, DocFinder: 2325). However, one set of wireless products proved capable of handling the mixed load: Aruba Wireless Networks' A2400 and A800 switches and A61 access point. That is the reason we selected these products as the Best of the Tests winners in the Wireless category.*

"While some products struggled mightily in our tests, Aruba's A2400 and A800 switches and A61 access points were consistently strong performers," wrote Network World Lab Alliance partner David Newman. "The Aruba products posted generally excellent numbers, regardless of how much voice or data traffic was thrown at them."

Since our test, Aruba has made many enhancements to its VoWi-Fi feature set. In particular, Aruba introduced its Mobile Edge architecture, which creates an intelligent overlay system that spans a company's LAN and WAN as well as the Internet. Users plugging an Aruba access point into any Internet connection can then use a mobile VoIP handset to connect to corporate voice resources securely. Other enhanced VoWiFi features include: voice flow classification (packet inspection and classification for advanced VoWiFi); advanced call admission control (monitors a call's state and load balances voice-capable devices for network availability and performance assurance); QoS policing (raises or lowers priority based on user's role and traffic type); voice-aware scanning (inhibits an access point from scanning other channels during active voice calls); and voice client security (allows access for less-secure voice devices without compromising overall wireless LAN [WLAN] security).

In a major win, Microsoft selected Aruba gear for what's being called the world's largest next-generation WLAN. The WLAN will serve more than 25,000 simultaneous users who work in 277 buildings in 60 countries, Aruba says. The project — which uses Aruba's mobility controllers, software and about 5,000 ultra-thin Aruba access points — gives Microsoft a single voice and data network.

Other deployments for Aruba include Dartmouth College, Medstar and University College London Hospital.
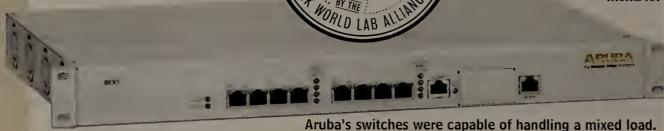
In addition, Aruba joined the MobileIGNITE Program for Mobile VoIP Interoperability, obtained SpectraLink Voice Interoperability for Enterprise Wireless certification and completed interoperability and compatibility validation with Vocera's line of voice communication badges.

□FUTURE TESTS: With all the advances being made in the VoWi-Fi arena, we anticipate another test with that focus this year. We also will continue to monitor wireless scanners and other tools that help enterprises support wireless networks. Advances in wide-area wireless technologies and support for mobile devices continue to intrigue us as well. Do the networks vary in download and upload speeds depending on device and what city you're in? Stay tuned.

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Aruba's switches were capable of handling a mixed load.

WIRELESS FINALISTS

□ **AirMagnet's Spectrum Analyzer** impressed us for its ability to help network engineers scan the airwaves to find interfering noise sources within the 2.4-GHz spectrum (DocFinder: 2326). Lab Alliance member Tom Henderson said he was "thrilled to be able to track all IEEE 802.11b/g/a frequencies, not just the ones that are legal in the United States."

□ **Network Chemistry's BlueScanner,** examined in the same Clear Choice Test as the AirMagnet product, was also impressive, Henderson said. The free tool (via download) can find and articulate data about Bluetooth devices, and the service sets running on them, within the company. When we tested the tool, BlueScanner found every Bluetooth device we had, in addition to finding all of their exposed features. While we couldn't fix exposures with the tool, finding them was the biggest part of the battle.

:PRODUCT MASTERMIND:

□ **Pradeep Iyer,** director of technology

JOB DUTIES: Creates and develops product feature sets.

FAVORITE FEATURE: "Voice flow classification. As mobile devices evolve toward smartphones and PDAs, it's critical to prioritize voice flows over data flows originating from the same device. The Aruba mobility controllers [can do so with algorithms that perform] stateful packet inspection and reserve bandwidth for these flows."
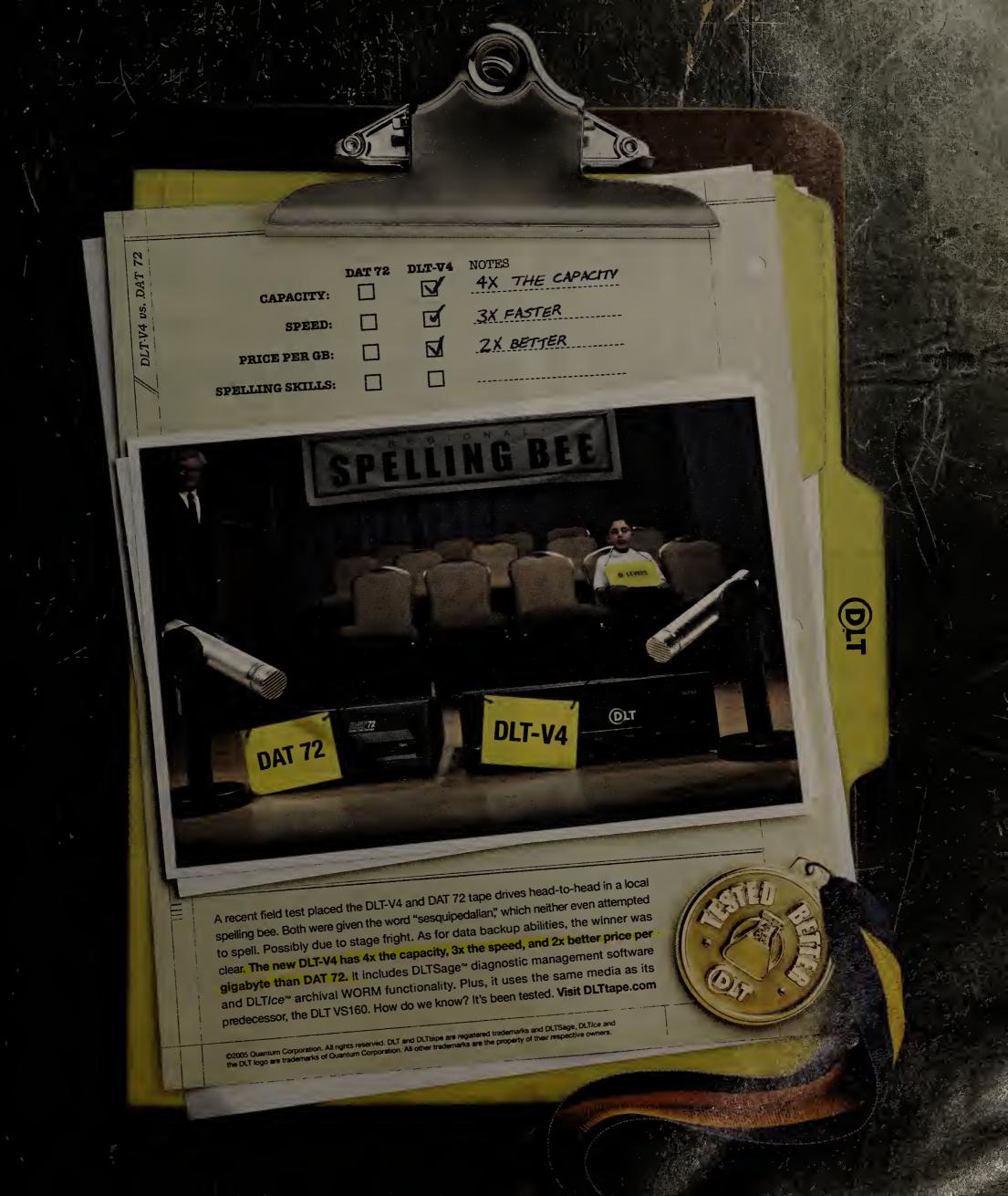
:USER TAKE:

□ **Brad Noblet,** COO, Faculty of Arts and Sciences (FAS), Harvard University, in Cambridge, Mass.

DEPLOYMENT: Noblet joined Harvard in January to build a converged wireless network for FAS' 30,000 users. Based on the experience he gained building a similar, smaller network (800 users) at Dartmouth College over the last several years, he intends to use Aruba wireless switches and access points. He already has a few such switches at FAS. FAVORITE FEATURES: "The first is the ability to load balance traffic and the second is the ability to increase the density of access points" because of the intelligence provided with the switches.

BUSINESS BENEFITS: "From the user perspective, the ability to provide ubiquitous communications across the campus, with a similar experience between wired and wireless. Whatever they want to do — watch TV, talk on the phone, [instant message] — they can. ... And, with convergence over a wireless network, I can save a ton of money" in staffing and technology costs.

	DAT 72	DLT-V4	NOTES
CAPACITY:	☐	☑	4X THE CAPACITY
SPEED:	☐	☑	3X FASTER
PRICE PER GB:	☐	☑	2X BETTER
SPELLING SKILLS:	☐	☐	

DLT-V4 vs. DAT 72

A recent field test placed the DLT-V4 and DAT 72 tape drives head-to-head in a local spelling bee. Both were given the word "sesquipedalian," which neither even attempted to spell. Possibly due to stage fright. As for data backup abilities, the winner was clear. **The new DLT-V4 has 4x the capacity, 3x the speed, and 2x better price per gigabyte than DAT 72.** It includes DLTSage™ diagnostic management software and DLTIce™ archival WORM functionality. Plus, it uses the same media as its predecessor, the DLT VS160. How do we know? It's been tested. **Visit DLTtape.com**

Product index
The 200 products Network World tested last year.

vendor / product

CLIENT SECURITY

vendor	product
Aladdin Knowledge Systems	eSafe
Ashanti	Spyware Defense
Blue Coat Systems	Spyware Interceptor
CA	eTrust PestPatrol Corporate Edition
Check Point	Integrity
Cisco	Cisco Clean Access, Cisco Security Agent
Citadel Security Software	Hercules
Fortinet	FortiClient Host Security
F-Secure	Anti-Virus Client Security
Lavasoft	Ad-Aware SE Enterprise 2005
McAfee	McAfee AntiSpyware Enterprise
McAfee	Secure Content Management Appliance
Microsoft	Windows AntiSpyware
Omniquad	AntiSpy Enterprise
Panda Software	EnterpriSecure with TruPrevent
Senforce Technologies	Senforce Endpoint Security Suite
SunBelt Software	CounterSpy Enterprise
SurfControl	SurfControl Enterprise Threat Shield
Tangent Computer	Packet Hawk Enterprise Anti-Spyware Appliance
Trend Micro	Network VirusScan, OfficeScan 7
Trend Micro	OfficeScan Anti-Spyware Suite and InterScan Anti-Spyware Suite
Vernier Networks and PatchLink	EdgeWall 7000i; PatchLink Update Server
Webroot Software	Spy Sweeper Enterprise
Websense	Web Security Suite-Lockdown Edition

CONVERGENCE

vendor	product
Aastra Technologies	VentureIP system
Agilent Technologies	DNA-MX and TNA software
Avaya	Modular Messaging System and Unified Communications Center
Brix Networks	BrixMon
Centra Software (now Saba)	Centra 7 eMeeting
Cisco	Unity Enterprise and Personal Assistant
ClearSight Networks	ClearSight Analyzer
Convoq	ASAP Pro 2.0
Elluminate	Elluminate Live! Team Edition
FaceToFaceMeeting	FaceToFaceMeeting business service
Fluke Networks	OptiView VoIP, Protocol Expert Plus and Link Analyzer
Genesys Conferencing	Genesys Meeting Center
Interwise	iMeeting and Enterprise Connection
Linktivity, an Inter-Tel division	WebDemo Hosted
Macromedia	Breeze
Nortel	CallPilot
Raindance Communications	Raindance Meeting Edition
Santa Cruz Networks	VidiTel
Siemens Communications	HiPath Xpressions

vendor	product
Skype	Skype 1.6 and 2.0
Touchstone Technologies	WinEyeQ
Viola Networks	NetAlly RealTime and NetAlly VoIP
WebEx Communications	Meeting Center
WildPackets	EtherPeek VX
ZyXel	ZyXel P-2000W wireless VoIP phone

INFORMATION MANAGEMENT

vendor	product
Akimbo	Akimbo Player
Anthology Solutions	Yellow Machine
Buffalo Technology	TeraStation
D-Link	D-Link DSM-320RD Wireless Media Player
Google	Google Mini
Google	Google Search Appliance
Imation	Imation Disk Stakka CD & DVD Manager
Infrant Technologies	ReadyNAS 600
Iomega	StorCenter Pro NAS 200d, with REV drive
Maxtor	Maxtor Shared Storage Drive
Microsoft	Data Protection Manager
Netgear	Storage Central SC101
SimpleTech	SimpleShare
Thunderstone Software	Thunderstone Search Appliance

INFRASTRUCTURE, NETWORK

vendor	product
Array Networks	TMX5000
Axentra	Net-Box H-70
Cisco	Catalyst 4948-10GE
Citrix Systems	NetScaler Application Delivery System
Crescendo Networks	CN5080-E
F5 Networks	Big-IP 6800
Foundry Networks	ServerIron 450
IBM	IBM x336
Juniper Networks	DX 3600
Nortel	BayStack 5520
Sun	N2120V
Sun	SunFire T2000

IT ASSETS

vendor	product
American Power Conversion	APC Biometric Mouse Password Manager BioM34
Apple	Apple Mac mini
Apple	Apple Cinema Display
Averatec	Averatec 1000 series notebook
BenQ	BenQ DV3250
Dell	Dell 2405FPW monitor
Epson	Epson P-2000 multimedia storage viewer
Fujitsu	Fujitsu LifeBook P1500 series
Gateway	Gateway Cx200x convertible notebook
HP	HP nx6125 Business Notebook
IBM	ThinkPad X41
Lenovo	Lenovo ThinkCentre S51
Lenovo	Lenovo ThinkVision L171p
Motion Computing	Motion LS800
Philips	Philips 200W6 20-inch widescreen LCD monitor
Philips	Philips Brilliance 190P6

Rocsecure	RocBit 2a USB 2.0/Firewire external drive
Samsung	Samsung SyncMaster 930MP display
Seagate Technology	Seagate Pocket Hard Drive
SmartDisk	FireLite 100GB USB drive
Sony	Sony Vaio T350p
Sony	Sony Vaio VCG-V620G
Sony	Sony MFM-HT95 LCD multifunction display
Tangent	Pendant LCDPC-7500
Toshiba	Toshiba Protégé R200-S234
Toshiba	Toshiba Qosmio G25-AV513
Verbatim	Store 'n' Go U3 Smart Drive
Westinghouse	Westinghouse LVM-37w1 HD monitor
Zio	Zio FoneMate SD & SIM Card Data & Media Manager

MESSAGING

CenturionSoft	CenturionMail 3.0
CipherTrust	IronMail
EmergeCore Networks	IT-100 IT in a Box appliance
Entrust	Entrust Entelligence
PGP	Universal Series 500
PostX	SecureEmail
Symantec	Mail Security 8100
Tumbleweed Communications	MailGate Secure Messenger
ZipLip	Secure Messaging

NETWORK MANAGEMENT

ApplianSys	DNSBox 300/100
BMC Software	BMC Performance Manager Console, Performance Manager Portal, Distribution Server
Coradiant	TrueSight 1100
HP	OpenView Network Node Manager, OpenView Operations, OpenView Internet Services
International Network Services	IPControl
Lucent	VitalQIP
MetaInfo	Meta IP Enterprise
Microsoft	Microsoft Operations Manager 2005
Microsoft	Virtual Server 2005
PerformanceIT	ProIT
PremiTech	Performance Guard
TechSmith	Morae

OPERATING SYSTEMS

Microsoft	Internet Explorer
Microsoft	Vista
Microsoft	Windows 2003 Server x64
Mozilla Foundation	FireFox
Novell	Open Enterprise Server
QCD Microsystems	InterStructures
Red Hat	Red Hat Enterprise Linux 4.0 Advanced Server
SCO Group	OpenServer 6
Sun	Solaris 10

SECURITY INFRASTRUCTURE

AEP Networks	Netilla Security Platform
Array Networks	Array SPX-5000
Aventail	EX-1500
Caymas Systems	Caymas 525
Check Point	Connectra
Check Point	VPN-1 Edge W
F5 Networks	FirePass 4100
Fortinet	FortiGate 3600
Juniper Networks	ISG 2000 system
Juniper Networks	Secure Access SSL VPN Appliance
Lancope	StealthWatch M250
Nokia	Secure Access System 500s
Nortel	VPN Gateway 3070
SonicWall	Pro 1260 Enhanced
SonicWall	SSL-VPN 2000

SECURITY MANAGEMENT

Co-Logic Security	E-Secure-IT
Cybertrust	Alert Manager
Desktop Standard	GPOVault
Guidance Software	EnCase Enterprise
InfoExpress	CyberGatekeeper
Microsoft	Windows Update Service
NetIQ	Group Policy Guardian, Group Policy Administrator
PivX	Threat Focus Diligence
Quest Software	Group Policy Manager, InTrust for Active Directory
ScriptLogic	Active Administrator
Secunia	Security Manager
SecurityGlobal.net	SecurityTracker
SecurityMob	SecurityMob
Symantec	DeepSight Alert Services
Thor Technologies (now Oracle)	Xellerate Identity Manager

WIRELESS

AirMagnet	AirMagnet Spectrum Analyzer
APC	3-in-1 Wireless Mobile Router
Aruba Networks	Aruba A2400 and A800 switches, and A61 access point
Bountiful WiFi	Bountiful Router
Chantry Networks (now Siemens)	Chantry BeaconMaster
Cingular	F9100 phone
Cisco	Wireless LAN Services Module
Colubris Networks	CN1250
HP	iPAQ HW6500 handheld
Interlink Networks	LucidLink
Juniper Networks	NetScreen-5GT
Motorola	i836 phone
NetGear	WallPlugged Wireless Range Extender
NetGear	WGU624
Network Chemistry	BlueScanner
Palm	Palm TX handheld
Sony	MFM-HT75W multifunction display
Sprint Nextel and RIM	BlackBerry 7520 Wireless Handheld
Verizon	LG VX8100 phone
Wavelink	Mobile Manager Enterprise
Xirrus	XS-3900

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The
dream OS

☐ An OS tester fantasizes about building the best, most stable operating system.

By TOM HENDERSON

My worst nightmare would be to wake up as either Linus Torvalds, heavyweight Linux wrestler of the world; Ray Ozzie, holder of the future of Windows; or Jonathan Schwartz, alter ego of Sun's Scott McNealy. All are the lightning rods in a never-ceasing thunderstorm of new technology advances in hardware and mind-numbingly sophisticated software applications. To live in their respective roles requires ego, panache and vision — and Kevlar armor.

Each of these protagonists had one of his products tested by *Network World* last year. If we were to take the successful components of each and graft together our own perfect server operating system, the result would be recognizable — but barely.

First, we'd take all of the bloat from every network server operating system. Every superfluous driver would be stripped, and every extraneous piece of code placed onto a spare DVD to be used only if we called for it. Hardware compatibility at installation time mandates having all drivers ever conceived loaded onto the server's storage media. This is like bringing in the 5th Army division when a single sniper is needed.

We'd remove all but the core command sets. All obscure executable items and 99% of such things as fonts, sounds and stock pictures should be loaded only when requested. Ask for the media or, better yet, download it from a secure/authenticated Web site at run-time, when needed. These two actions — deleting drivers and culling obscure executables — would allow most operating systems to be held on a single gigabyte USB flash drive fob. No flexibility would be denied. Bloat would go away.

Moving on from the hardware, we'd give our operating system the rapid porting stability of Linux 2.6. We'd add in Sun's DTrace (a tool that rapidly determines where code is wasting time or is in an error condition), which helps eliminate the finger-pointing when code doesn't execute to expectation.

We'd take the speed of Windows 64-bit editions, late as they were to the 64-bit race, or Solaris 10's seemingly unfettered responsiveness. Both are comparatively ugly, however, so we'd add the luxurious Apple's Panther/OS X.4 GUI.

All the best cross-platform virtualization features of EMC's VMware would be mandatory. But we'd add in the ease of use of Microsoft's Virtual Server (www.nww.com, DocFinder: 2322), the Redmond giant's own flavor of virtualization software that lets you run multiple instances of Windows on the same physical server. Because we'd want to host multiple instances of whatever we'd like, and we'd also want to isolate them as need be, the operating system would require the highly structured, kernel security model of Red Hat's Advanced Server 4.0.

This operating system would have to understand multicore CPUs. They're the future of computing as higher CPU clock speeds become more difficult for CPU vendors to support. Supporting numerous flavors of filing systems — moving beyond the chest thumping that one is better than another — also would be a must. Give us our choice of WinFS, or Reiser or ZFS. Cross-license them — free — to each other and everyone so we no longer must appease proprietary, standards-less, incompatible applications.

The kicker here is that we'd like this super file system to run on all of the processor families available. No special editions for 32-bit, 64-bit or multicore. No extra surcharges for the Intel Itanium, AMD 64, UltraSPARC or even million instructions per section. No tiny editions, medium editions, standard editions, enterprise editions, huge fat corporate editions or galactic cluster editions. Just one set of code for developers and administrators and network engineers and civilian users.

In turn, there must be no second-class clients. You either support them in a festival of harmony and egalitarianism, or say, "We don't support them; now go away." No half-attempts, no client ghettos allowed.

OK, we understand that we're totally daydreaming about complete compatibility in a competitive environment, but we do feel it's something to shoot for. Our antecedents drilled into us what compatibility and standards mean: We fail when they become an oxymoron.

Henderson, a Network World Lab Alliance member, is principal researcher and managing director of ExtremeLabs. He can be reached at thenderson@extremelabs.com.

JAMES TURNER

Inter-Tel Web Conferencing: Changing the Face of Business

For virtually every business that finds itself in a competitive environment, the three most precious assets are time, people and money. Growing a business while preserving these resources is a challenge that many managers must face.

In a typical day, employees can be scattered throughout an office or around the globe, closing sales, making deals with suppliers, searching for potential job candidates and "putting out fires" with customers. Business hours have no limits and offices have no boundaries. Deals can be made with participants in any location — an airport, a hotel room, in the car, even in coffee shops. The only thing that is constant in today's business environment is that nothing is constant. Fluidity and flexibility define today's successful enterprise. And there is every indication that this frenetic pace will only continue.

To keep up with today's constantly evolving work environment, every business owner needs to ask, "What tools do I need to remain competitive?" and most importantly, "How can I succeed without jeopardizing my most precious resources?" Many companies are discovering that advanced IP-powered communications tools are among the best ways to grow their businesses and better utilize their time, team members and financial resources.

"We talk with a large number of businesses that always seem to have people on the go," reports Jeffrey T. Ford, division president and chief technology officer for Inter-Tel, a leading provider of voice and data communications solutions for businesses. "And when we tell them that we have products that will enable their employees to become more efficient and substantially reduce travel and communications expenses, they invariably listen to us."

With the emergence of Voice over Internet Protocol (VoIP) technology, Inter-Tel has been able to successfully develop advanced collaboration products that allow companies to seamlessly communicate with colleagues, customers and vendors in the next building, the next state or around the globe.

One product in particular, Inter-Tel Web Conferencing, is particularly well-suited for facilitating real-time Web and audio conversations for participants in geographically disparate locations.
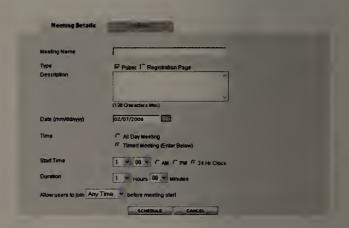
Recently selected as a "Best of the Test" finalist by Network World, Inter-Tel Web Conferencing is a real-time, web-based software solution that provides businesses with robust conferencing and collaboration tools. The application enables users to communicate faster and more effectively with team members, customers and suppliers, while allowing businesses to significantly increase productivity and reduce travel, cell phone, videoconference and other related expenditures.

Companies typically use the application to schedule and administer a wide range of online events, including training sessions, sales presentations and departmental meetings. Through its Web interface, the application provides a number of functions for collaborative sessions, such as Web conferencing, document sharing, whiteboarding, polling and quizzing, and Internet co-browsing. Inter-Tel Web Conferencing is a reliable and fully secure application, incorporating multiple layers of security such as encryption and password protection.

Participants can access online meetings from desktop telephones, softphones that reside on laptop computers, PDAs and a number of other mobile devices. All that's required to "attend" a meeting is a broadband connection, which can be either wired or wireless. This ease of use can transform virtually any location into an instant conference room. As a result, business communications become more intimate, more compelling and more productive.

In addition, Inter-Tel Web Conferencing can be easily integrated with other Inter-Tel applications, such as its presence management solution, Unified Communicator® v3.0, providing an even more productive environment.

"In terms of providing businesses with a real-time ability to hold online Web conferences, deliver presentations or conduct training, there is no more cost-effective way to facilitate these activities than through collaborative technologies," said Ford. "Today's companies are successfully leveraging tools like Inter-Tel Web Conferencing to improve their most fundamental business needs, like generating revenue, improving customer service and reducing expenses. It is an outstanding solution to managing time, building relationships and maximizing finances."

HIGHLIGHTS FROM THE TEST FINALISTS
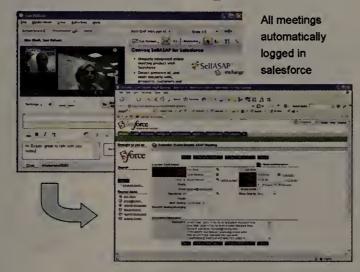
Convoq ASAP: A family of Flash-based online meeting systems

Convoq's ASAP products are the only Flash-based online meeting systems featuring rich media meeting capabilities that include desktop sharing, PowerPoint presentations, text chat, VoIP audio, video and now Record & Playback.

Convoq's ASAP products are quite simply the best for simple, affordable online meetings. By giving you the tools for instant access, audio and video conferencing, presentation sharing, product demonstrations and record & playback facilities, ASAP provides solutions for every facet of your business: sales, marketing, team meetings, training and support. And because ASAP is Flash-based, all your meeting participants will enjoy an installation free experience—saving time and hassles for everyone concerned.

In addition, Convoq's flexible flat-fee pricing model allows you to conduct an unlimited number of meetings, with each meeting able to hold up to 15 participants. Compared to web conferencing products from larger companies, this model will save you many hundreds of dollars every year.

All meetings automatically logged in salesforce

Convoq Product Line

Sell ASAP for Salesforce Users: Online Meetings on Demand
- Launch online meetings in one click from Salesforce
- Deliver instant presentations and rich-media demonstrations
- Capture meeting event data in Salesforce automatically
- Get instant help from other members of the organization
- Improve the quality and quantity of sales data tracked and reported
- MS Outlook integration—schedule meetings and send invitations through Outlook

ASAP Pro: Small Business Web Conferencing
- Conduct an unlimited number of meetings
- Deliver the message with audio/video/PowerPoint
- Use screen-sharing to demonstrate products
- Publish ASAP links in e-mail/blogs/Web sites
- Collaborate online with up to 15 people at a time

ASAP Conference Room: Web Conferencing for Webinars, Training and Larger Events
- Conduct an unlimited number of meetings with 25, 50, 100 or 200 people
- Share presentations, applications, documents

www.convoq.com or
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ConVoq

What to know before you buy

☐ Consider these testers' tips before making your next network purchase.

By JOANNE CUMMINGS

Network *World* Lab Alliance members are in the testing trenches all year. Here they turn lessons learned into tips for ensuring you make ultrasmart buying decisions.

VoIP infrastructure

1. Weigh the Session Initiation Protocol (SIP) factor. VoIP gear either supports the standard SIP or uses a proprietary format. "SIP-standard gear gives you lower costs and good prospects for multivendor interoperability," says Ed Mier, president of testing lab Miercom. "But it's still 'some assembly required' in many cases and offers fewer features because the standards are still being finalized. Proprietary alternatives give you single-vendor ownership and more features, but higher costs and limited multivendor interoperability."

2. The more trunking support, the better. Ask VoIP equipment vendors what carrier services they work with over SIP trunking, then "seriously consider the vendor that supports the most," Mier says. "You will save big time over the next year in replacing expensive channelized T-1 trunks."

3. Check bandwidth controls. "A key component of VoIP quality comes from your ability to control VoIP bandwidth consumption," Mier says. Look for gear that supports automatic G.729 vocoding over WAN links and provides good QoS and detailed call-admission control.

VoIP management

1. Test for "moves, adds and changes." Have prospective vendors walk you through the steps to add a new hard phone and a new soft phone user, including setting up voice mail. "If it takes more than 5 minutes and/or five screens of data entry, consider another vendor," Mier says.

2. Check QoS monitoring. "Find out if the vendor's management pack includes any options or supports third-party packages for tracking [QoS]," Mier says. "That way, you can investigate complaints of poor call quality."

3. Beware SIP-based management. "There are many advantages to a SIP-based IP PBX," Mier says. "But management likely isn't one of them." With SIP's ability to mix and match multiple vendors' equipment comes multiple management interfaces — one for call control, another for phone sets, another for gateways and so on. "Know what you're getting into," he cautions.

Wireless gear

1. Don't minimize power decisions when planning for wireless LANs, especially if wireless VoIP is involved, says Tom Henderson, managing director of ExtremeLabs. "Keep wireless VoIP alive by choosing access points that support Power over Ethernet, and connect the hubs and switches to [a UPS]," he says. "A UPS/PoE infrastructure can usually withstand brownouts and other conditions that might otherwise cause VoIP outages. It's also more convenient to use PoE when hanging access points in false ceilings where power outlets are at a premium or might not exist. A few access points have integral batteries, but we don't recommend them."

2. Don't skip the survey. "A Wi-Fi plan requires examining the air space with a Wi-Fi analyzer before buying and deploying access points — no matter how clever the access point or how powerful its signal or antennas are purported to be," Henderson says, noting that strange things can block signals, and co-channel interference can rob you of your investment.

3. All rogues are not alike. Check whether your vendor's rogue containment feature can distinguish between different types of rogues, says David Newman, president of consultancy Network Test. "If you're Starbucks, you want to kick unauthorized users off your network — but not off the McDonald's network next door."

Security infrastructure

1. Don't under buy performance. Testing performance in security products is becoming increasingly tough, because user configurations differ so widely, says Joel Snyder, a senior partner with Opus One. "The vendor may not really know how fast its product will go when configured the way you want it," he says. If you can't test the product in your network before you buy it, then carefully evaluate performance claims so you don't end up with the wrong fit, he says. "Salesmen tend to size products to fit your budget, not your requirements. It's easy to underbuy nowadays."

2. Security products have more bells and whistles than most organizations use. "Don't be dazzled by those at demo time," Snyder says. "Each feature has a cost, probably in performance and certainly in configuration and ongoing management. Understand what your time and cost commitments are, and focus on the features you're going to use, not the ones that sound cool."

3. Focus negotiations on support, not price. "Pay list price for the hardware, and negotiate the long-term support costs," Snyder says. "For most security products, direct costs for support and vendor subscriptions will exceed capital costs within three years, if not sooner. That's where you should focus your time."

Security management

1. Process trumps features in identity management. When buying identity management and provisioning tools, don't focus solely on the technology aspects, says Mandy Andress, president of ArcSec Technologies. "More important is making sure your processes will fit with the product and that you have an organization that will readily accept process changes."

2. Audit tools need to be team players. "Auditing always brings out the primordial fear in IT professionals," Andress says. "Make sure your auditing tools can integrate with the security infrastructure, complementing policy development, vulnerability management, compliance and risk management."

Beware of feature creep in endpoint security. Like many security wares, today's endpoint-security products have a glut of features, Andress says. "Stay focused on the problem you are addressing and don't get carried away making a decision based on features you will never use."

E-mail security

1. Make the certificate-management decision upfront. "Before you shop, figure out how and where you want to manage your certificates," says Travis Berkley, associate director for networking and telecommunications services at the University of Kansas. "Managing at the gateway vs. managing at the desktop can really change the look of an encryption system. There is no right or wrong answer, as long as you plan your implementation upfront. Trying to shoehorn a package to handle certificates differently from how it was designed usually doesn't work out very well."

2. Know the desktop pitfalls. If you manage certificates at the desktop, one consideration is key escrow, Berkley says. "Will your system administrator be able to recover the certificates if the employee managing the certificates quits or gets hit by a bus?" he asks. "And, are you subject to a bevy of other regulations? If you allow encryption at the desktop, you have to be prepared for ensuring capture of those messages."

3. Know the gateway trade-offs. Management at the gateway has its own pitfalls, Berkley says. "If you allow only encryption at the gateway, are you going to use one single certificate for the entire company, or will you create — and therefore manage — unique certificates for each employee?" These decisions need to be made before buying e-mail encryption, he says.

Net management systems

1. Do a crash test. The best network management systems are easy to recover, says Barry Nance, president of Network Testing Labs. "Before you buy, make sure you can reinstall the [network management system] tool when its server crashes on a Friday at 11 p.m. — especially if the vendor's licensing ties the tool to a network adapter's [media access control] address and the vendor doesn't offer 24/7 quick-response support," he says.

2. Buy with everyday use in mind. "Don't think you'll use the [network management system] tool just when problems occur," Nance says. "Plan to use the tool consistently and continuously, and leverage it for capacity planning as well as problem diagnosis."

3. Make applications a priority. "Buy a tool that offers some recognition of — and perhaps integration with — the applications on the network," Nance says. "High-level, app-level views of the network increase your business intelligence considerably."

Storage gear

1. "Never buy storage without a plan to back the media up on a regular basis," ExtremeLabs' Henderson says. "Part of the hidden costs of storage is the licenses and devices needed to provide backups. Plus, conformance legislation may require you to keep data alive or available for far longer than has been required in the past. Before you buy, make sure you can migrate these items into subsequent systems or onto media whose life meets the requirements."

2. Consider buying high revolutions-per-minute drives. Drives that spin at a high number of rpm, such as 10K- or 15K-rpm drives, really do perform faster when used in RAID 1 or 5 arrays," Henderson says. "Although 7,500-rpm drives (especially those with lots of onboard cache) can be good performers, high rpm drives can mean the difference between fast and really fast; the speed is definitely discernible."

3. Stick with standards. "Anything inside a storage enclosure should be easily replaceable," says James Gaskin, an independent researcher. "Odd-shaped power supplies or funky disk carriers that can't be replaced can cause you grief you don't need."

Infrastructure

1. Do a support test. Before renewing the 24/7 service contract on a server or network switch, do the Sunday 9 a.m. test, Network Test's Newman says. "Have a green-sounding employee call the vendor's support line during off-hours with a tough question that you already know the answer to. The speed and quality of the response will tell you something about the level of service you can expect."

Who's who
in the Network World Lab Alliance

Mandy Andress
☐ President, ArcSec Technologies > TESTS SECURITY MANAGEMENT HARDWARE AND SOFTWARE

John Bass
☐ Technical director, Centennial Networking Labs at North Carolina State University > TESTS SERVER AND NETWORK HARDWARE

Travis Berkley
☐ Associate director for networking and telecommunications services, the University of Kansas > TESTS MESSAGING AND WIRELESS/MOBILE PRODUCTS

Jeffrey Fritz
☐ Director of enterprise network services, the University of California, San Francisco > TESTS NETWORK MANAGEMENT TOOLS AND NETWORK GEAR

James Gaskin
☐ Independent researcher > TESTS OPERATING SYSTEMS, STORAGE AND SMALL/MIDSIZE BUSINESS PRODUCTS

Tom Henderson
☐ Principal researcher and managing director, ExtremeLabs > TESTS WIRELESS GEAR, STORAGE SOFTWARE AND OPERATING SYSTEMS

Ed Mier
☐ President, Miercom > TESTS VOIP HARDWARE AND SOFTWARE AND STORAGE PRODUCTS

Barry Nance
☐ President, Network Testing Labs > TESTS WAN/LAN, MOBILE DEVICE AND APPLICATION MANAGEMENT PRODUCTS

David Newman
☐ President, Network Test > TESTS SECURITY AND NETWORK INFRASTRUCTURE PRODUCTS

Christine Perey
☐ President, Perey Research and Consulting > TESTS MULTIMEDIA APPLICATIONS AND SERVICES

Thomas Powell
☐ CEO, PINT > TESTS WEB MANAGEMENT PRODUCTS

Joel Snyder
☐ Senior partner, Opus One > TESTS SECURITY PRODUCTS

Sam Stover
☐ Independent consultant > TESTS SECURITY HARDWARE AND SOFTWARE

Rodney Thayer
☐ Independent network security consultant > TESTS SECURITY HARDWARE AND SOFTWARE

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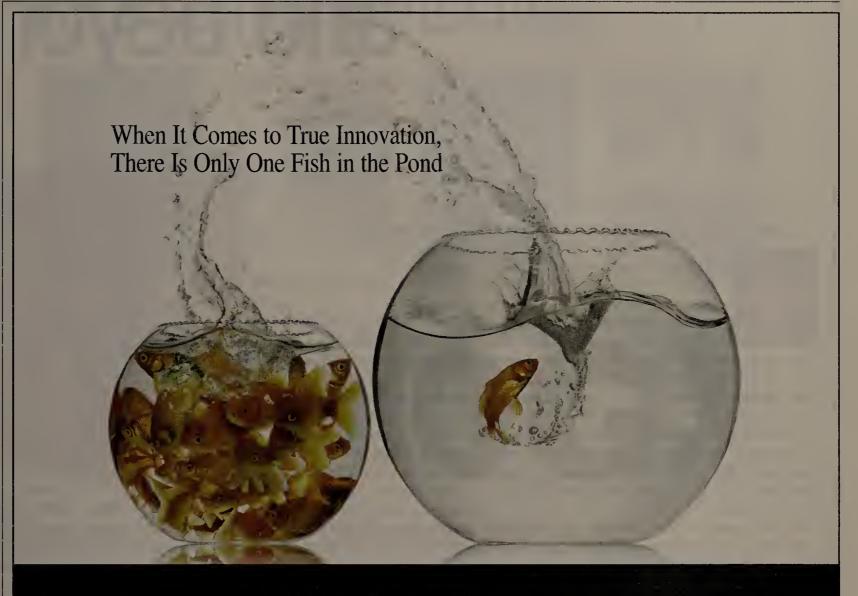
2. "When negotiating prices, especially on large-volume purchases, remember that the capital cost is often just a small portion of the total cost of ownership," Newman says. "Other pricing factors include staff retraining, people costs to run the equipment, spares, service and support, and power and space requirements."

3. Make security a key criterion. "When evaluating any new piece of networking equipment, find out whether it supports strong authentication and encryption by default for management traffic — and for user traffic, if applicable," Newman says. "Security needs to be part of the review process for every component in the network today."

Cummings (jocummings@comcast.net) is freelance writer in North Andover, Mass.

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Going above and beyond

☐ Selected by *Network World* columnists, these five products offer novel ways to solve today's enterprise challenges.

CERTIFIED BEST
APPROVED FOR NETWORK USE · FEBRUARY 27, 2006 · BY THE NETWORK WORLD COLUMNISTS

THE CATEGORY-BREAKER
☐ Symantec's Backup Exec 10d for Windows Servers

SELECTED BY: Johna Till Johnson, president of Nemertes Research, "Eye on the Carriers" columnist

What makes this product so special? Although Backup Exec 10d joins a crowded field, it represents a milestone for two key reasons. First, as an offering provided by a major vendor, it highlights the mainstream emergence of continuous data protection (CDP) as a key trend in business continuance. With CDP, business-continuity planning is becoming less about periodic batch backups of centrally stored data, and more about ongoing management and availability of information across the enterprise in real time.

Second, Symantec's move highlights another significant trend toward enterprisewide information stewardship, a holistic approach to information protection and security, data-quality management, information life-cycle management (ILM), business continuance and compliance. In a recent Nemertes benchmark, 87% of participants said they consider effective information stewardship vital — and a backup/ILM product offered by a

security vendor is uniquely positioned to combine information protection with ILM and business continuance. Although Symantec has not yet integrated its leading anti-malware technology into its backup software, doing so is an obvious next step.

Who's using it? Leading-edge advocates of information stewardship in general, and CDP in particular, include professional-services firms, particularly those managing a great deal of customer data. Companies subject to compliance constraints also tend to lead in information stewardship initiatives, since compliance concerns make logging and auditing capabilities, and the ability to search and retrieve older file copies, more critical. These kinds of companies are on the forefront when it comes to understanding the need for information stewardship overall, and in particular in
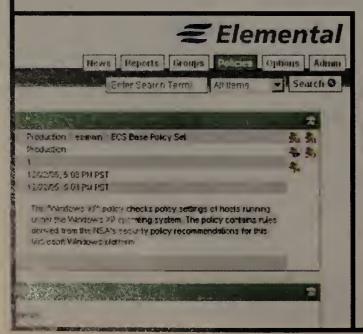
grasping the significance of integrated solutions that combine functions such as information protection with backup and ILM. A case in point is New York-based Berdon LLP, an accounting firm that uses Backup Exec and finds particular value in Symantec/Veritas' ability to provide integrated solutions for managing data.

How much will it cost, on average? Symantec Backup Exec 10d and the Backup Exec Continuous Protection Server are priced from $795 per server. The Backup Exec Continuous Protection Server is included at no additional cost with Backup Exec 10d. A Continuous Protection Starter Kit, including Backup Exec 10d, Backup Exec Continuous Protection Server and three Continuous Protection Agents, starts at $995.

THE CATEGORY-BREAKER
☐ Elemental Security's Elemental Compliance System 1.1

SELECTED BY: Dave Kearns, independent consultant, "Identity Management" and "Windows Networking Strategies" newsletter author

What makes this product so special? Combining policy-based management, intrusion detection and response, regulatory compliance monitoring and traditional firewall duties, Elemental Security's Elemental Compliance System 1.1 not only is a category breaker but also a mold breaker. The system redefines the overlapping areas of security, identity, compliance and response. I call it a firedoor, but even that term seems inadequate for all that this product does.

Who's using it? Among the enterprises that have implemented the Elemental Compliance System are Catholic Health System, John Wiley & Sons, Marshall BankFirst and Purdue University.

How much will it cost, on average? Elemental Security licenses the product by server and agents (that is, connectors to managed services and devices). The list price for one server and 500 agents is $100,000; bulk pricing is available, and most installations will vary.

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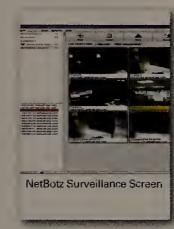
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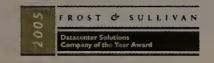
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THE CATEGORY-BREAKER
☐ **U3's U3 smart-drive technology**

SELECTED BY: Jim Kobielus, senior technical systems analyst at trading exchange Exostar, "Above the Cloud" columnist

What makes this product so special? U3 smart-drive technology, the latest step in client virtualization, is a boon to anyone who needs to keep a personal productivity workspace constant across diverse PCs. The technology allows the instant transformation of any Windows (XP or 2000) PC into a virtual client machine. The U3 smart drive hosts a personal workspace on a standard USB flash drive, which stores a user's applications, files, utilities and personalization preferences. For example, a user can configure his U3 smart drive with combinations of free U3 smart software from Mozilla, Trillian and Skype, as well as trial and paid versions of dozens of other applications. The user simply plugs the U3 smart drive into a host PC's USB port, and the U3 Launchpad interface appears, accessible from an icon in the Windows system tray. Just as important, the user can remove all traces of the applications, data and settings from the host PC by unplugging the U3 smart drive. The drive is well suited to many mobility, kiosk and guest-computing scenarios. It also is the right tool when users need to deploy non-standard personal productivity solutions to work on desktops without violating desktop configuration guidelines.

Who's using it? U3 has positioned this technology for broad adoption by business and consumer users. It has lined up a host of flash-drive manufacturers, such as Kingston Technology, Memorex, M-Systems, SanDisk and Verbatim. Several of these vendors have shipped retail versions of the technology bundled with various applications. In addition, U3 has recruited a broad range of commercial and open source software developers to build versions of their applications and utilities for the technology. The U3 software development kit has been downloaded more than 3,000 times since the September 2005 launch.

How much will it cost, on average? Hardware manufacturers and private-label vendors generally offer retail pricing for U3 smart drives. Typically, pricing is per drive and depends primarily on a drive's capacity. For example, a 256MB smart drive costs between $30 and $40 per unit, whereas a 1GB drive costs around $70 and a 2GB drive is more than $150.

THE CATEGORY-BREAKER
☐ **Belkin's Pre-N wireless LAN family**
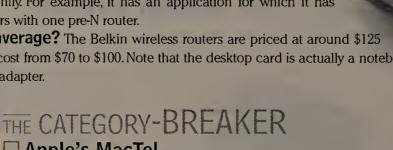
SELECTED BY: Ira Brodsky, president of Datacomm Research, "Totally Unplugged" columnist

What makes this product so special? The Belkin Pre-N wireless LAN family offers unprecedented transmission range. The distance covered by a WLAN can be crucial in settings such as small offices and retail stores. Extra reach avoids the hassle and expense associated with installing repeaters or multiple access points attached to a cable backbone. These products are not only compatible with the 802.11b and 802.11g standards; they boost the range achievable with those standards by about 20%.

Who's using it? The IT department of Synnex, a global IT supply chain services company in Fremont, Calif., uses the Pre-N family. For example, it has an application for which it has replaced three 802.11g wireless routers with one pre-N router.

How much will it cost, on average? The Belkin wireless routers are priced at around $125 each. The desktop and laptop cards cost from $70 to $100. Note that the desktop card is actually a notebook card plugged into a desktop PCI slot adapter.

THE CATEGORY-BREAKER
☐ **Apple's MacTel**

SELECTED BY: Winn Schwartau, president of Interpac, "On Security" columnist

What makes this product so special? In April 2005, Apple introduced OS X 10.4, aka Tiger. In January, it announced MacTel computing. And now imagine desktop and laptop computers that don't crash for months at a time. Imagine PCs that are pretty darn close to immune to the endless train wrecks caused by viruses and worms. Imagine increasing the performance of a very secure computing environment by as much as 400% overnight. Imagine an engineering company that builds and delivers properly integrated hardware, properly configured security default conditions — almost plug and play. Imagine a computing environment in which the endpoint is not a viable target for the bad guys. Lastly, imagine that the total cost of ownership for these benefits is lower than what you are currently paying.
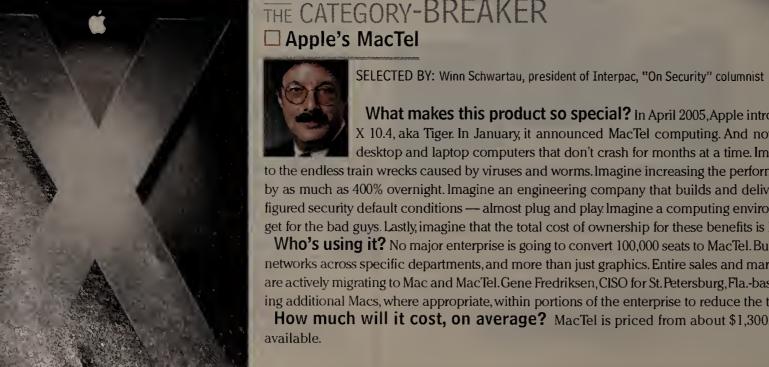
Who's using it? No major enterprise is going to convert 100,000 seats to MacTel. But I am seeing large organizations deploying Mac networks across specific departments, and more than just graphics. Entire sales and marketing departments within some financial firms are actively migrating to Mac and MacTel. Gene Fredriksen, CISO for St. Petersburg, Fla.-based Raymond James Financial, says he is deploying additional Macs, where appropriate, within portions of the enterprise to reduce the total cost of ownership of user computing.

How much will it cost, on average? MacTel is priced from about $1,300. Enterprise volume purchase agreements are available.

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GET THE BIGGER PICTURE
☐ Our contributors provide more detailed explanations of what makes these five products so noteworthy.
DOCFINDER: 2358

COURTESY OF APPLE

CERTIFIED BEST
APPROVED FOR NETWORK USE
BY THE
NETWORK WORLD READERS

Five can't-work-without products, in readers' own words.

By SANDRA GITTLEN

Fave raves

1. PRIMAVERA SYSTEMS' PRIMAVERA

The biggest problem I hear about with delivering projects on time is that CIOs didn't plan enough resources or devote enough man-hours. If estimates are wrong, then there are all types of problems — the target date will be late, and that will have a knock-off effect on all your other projects. A mistake that leads to this is starting off project budgets with a blank page. You'll have greater precision if you use the history of a similar project as a starting point.

We use Primavera Systems' [Primavera] project-management tool to record and forecast the necessary manpower and resources needed for each project, and that helps us deliver more than 95% of tasks on time.

We use it to archive details about all our technology projects — past and present. We log everything about networking and development for the almost 200 deployments we do each month. Using Primavera's tool lets us plan with precision and keep our resources aligned with business needs.

As we go through a project everyone enters the hours they spent and what skills were required. It's important that people record this information with discipline and the appropriate level of detail.
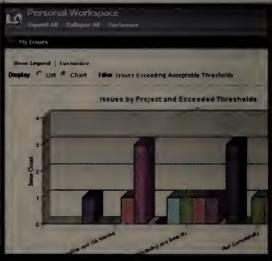
When forecasting a project, we can look at the history of similar projects to get an idea of what will be needed. For instance, we did a migration of a portion of one of our products from a Windows-based architecture to Java. We were able to dramatically increase the accuracy of our projection by going back and comparing two or three similar projects and benchmarking against them. It allows us to complete multithousand man-hour projects on schedule with relatively few surprises.

History can be an amazingly good road map, and we've learned that those who do not learn from history are bound to repeat it.

Primavera Systems' tool tracks multiple projects.

Ron Rose

Title: CIO, Priceline, Norwalk, Conn.　**Years in networking:** 30

"Primavera Systems' [Primavera] project management tool ... helps us deliver more than 95% of tasks on time."

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Kevin Clark

- **Title:** Director of IT operations, Lucasfilm Entertainment, in San Rafael, Calif.
- **Years in networking:** 15

Remedy IT Service Management for the Enterprise

Support Console

Francie Frontline

Assigned Requests Show All

Request ID	Summary	Requester	Status	Priority	Group	Escalated?
TSK000000000037	Upgrade Op	Demo	Scheduled	Low	Support-Soft	No
TSK000000000018	Deactivate I	Demo	Scheduled	Low	Support-IT S	No
HD0000000000102	Printer error	Joe User	Assigned	Low		Yes
HD0000000000098	Problems wit	Francie Fron	Assigned	Low	Problem Ma	Yes
HD0000000000097	Problems wit	Joe User	Work In Pro	Low		No
HD0000000000096	Problems wit	Joe User	Assigned	High		Yes
HD0000000000080	Problems wit	Joe User	Work In Pro	High		No
HD0000000000060	Printer is not	Erica Engine	Work In Pro	Low	Support-Print	Yes
CHG000000000055	Need a new	Andy Asset	Assigned	Medium	Support-Har	No
CHG000000000053	My computer	Carol Chang	Planning	Low	Support-Har	No

More Information: TSK000000000038

Remedy Help Desk monitors and displays the status of all trouble tickets.

ticket on his own and track it. If there's a critical issue that hasn't been addressed for 15 minutes, our team will automatically be notified.

IT also uses it to make sure we're not stepping on each other's toes. We can see if people are working on similar projects. Before, we would never have an idea where we were in projects and what everyone was spending time on. It helps us track that information more effectively.

We want to find trends in trouble tickets and not be like the movie "Groundhog Day," doing the same thing over and over again. For instance, a user might call in to the service desk because he is having trouble with a password. If the [technicians] aren't communicating, then they'll just reset the password and move on. However, if you see [via the application] that 10 or 15 people are having problems with their passwords in a matter of minutes, then you know there is a bigger problem, and you can quickly address it. While the tool won't fix the problem, it allows us to manage the process that leads to fixing the problem.

2. BMC SOFTWARE'S REMEDY HELP DESK

IN our Linux environment, there aren't a lot of off-the-shelf products we can use. However, the Remedy Help Desk application is great at helping us identify and track issues appropriately. It also lets us communicate out to users, and it's going to be extremely important as we move forward.

We purchased the tool about a year ago. The intent was to better monitor and manage issues across IT — not only from end users but ones we find internally. The goal is now to use the product to help us adopt a stronger change-management philosophy.

Remedy holds us more accountable, because customers have access to this tool as well. A customer can open a trouble

3. MIMOSA SYSTEMS' MIMOSA NEARPOINT SERVER

Steve Perry

- **Title:** IT director, Costello & Sons Insurance, in San Rafael, Calif.
- **Years in networking:** 22

"Thirty minutes later, I have my system back up and running."

W e're a paperless office, so we depend heavily on our e-mail system in all three of our [California] locations — San Rafael, Irvine and Santa Barbara. All of the transactions that take place over e-mail need to have some kind of digital backup. We have a large Microsoft Exchange environment, and there are a lot of messages with important attachments.

Mimosa NearPoint Server does three things for us: It backs up Exchange in real time; it provides continuous data protection for our e-mail system; and it provides a failover for the Exchange server. If you've ever worked with Exchange, you know these are all critical features.

Restore Exchange Databases

Restoration of Exchange Databases should be performed only by experienced Exchange Administrators.

Job Name: Restore ANTIPHON (2010) 2008

From Exchange Server: ANTIPHON

To Exchange Server: ANTIPHON

Target server must be in the same Exchange Administrative Group

☐ Force override of Exchange database overwrite protection flag

Type
- ○ Roll Forward Recovery
- ○ Point in Time Restore

Roll Forward Recovery is strongly recommended as it takes advantage of any residual log files on production Exchange Server.

Mimosa's tool protects e-mail data.

Before, if someone made a mistake on Exchange, we used to have to restore it from tape, and that would take a day and a half just to get the e-mail system back on its feet. The company would come to a grinding halt. Microsoft never invented a way to have a warm backup for Exchange. Now, if my Exchange server crashes, I can go to the NearPoint Server and click "restore." Thirty minutes later, I have my system back up and running. At most we might have lost an hour of productivity from the time of the last snapshot to complete restoration. I've done a lot of Exchange recoveries in my time, and you're lucky if you lose less than a day typically.

I can also configure the NearPoint Server to extract attachments from Exchange and deliver them from the NearPoint Server. That way, I don't have to have everyone's kids' pictures and other attachments clogging up the Exchange server. When a user sends an attachment to everyone in the company, it simply inserts a pointer to a file on the NearPoint Server. This makes Exchange much more efficient and boosts performance, because the database shrinks considerably in size — in fact, ours has been reduced by two-thirds.

4. NORTEL'S ENTERPRISE POLICY MANAGER

We have 14 classrooms in our business school equipped with live data jacks. Since the students usually have laptops in class, the faculty has a hard time capturing their attention. Even though the laptop is an incredible tool for learning, it's also a distraction. Faculty wanted a way to control or shut down what students do on their laptops.

To achieve this, we use Nortel's Enterprise Policy Manager (EPM) with a custom piece of code I wrote to manage the networks in the classrooms from the instructor station.

If I'm teaching a class, for instance, I can use the instructor's workstation in the room to choose what traffic I want to block and those packets are filtered from the edge switches within 5 seconds. The beauty is that each instructor can use the workstations differently. Instructors giving exams online over the student laptops during class can make sure their students have access only to the Web server that holds the university's testing tool. Using the workstation, which is policy-driven, they can guarantee that students can't go to the Web or chat or do e-mail during the exam. The only packets allowed are those to and from the testing server.

Another benefit is that by using a product like this ... we can prevent viruses and hacking out on the edge. Traditional firewall architecture forces you to send everything through a central point. For us, when we have an outbreak, we want to stop it at the user port so that we don't bring down the core of the network. We can see what filters are getting hit and even if a particular user is getting hit. Traditionally, it would have taken us days to push virus updates and policies out to the edge, but EPM lets us do it in 15 to 20 minutes. Everything is managed from a single server, and there are a great number of switches it can handle remotely. The IT staff is able to write policies, as well as offer teacher-level, in-room access.

Michael Vertefeuille

- **Title:** IT director, University of Connecticut School of Business, in Storrs, Conn.
- **Years in networking:** 15

Nortel's EPM eases policy enforcement.

5. SPI DYNAMICS' WEBINSPECT
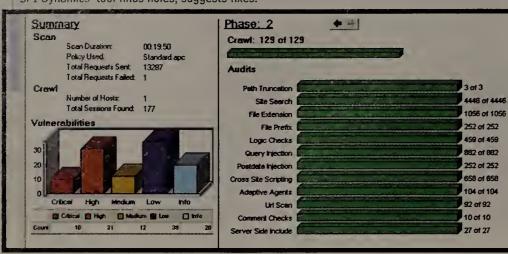
We do a lot of development in-house and externally on our intranet and extranet sites. We have a global network of sites that spans to all countries. I want to make sure that these portals are secure.

It took me a while to find WebInspect. The problem with most vulnerability tools is the false positives. WebInspect found a lot of interesting items, but not a lot of false positives.

Some tools tell you there's a problem but don't tell you how to solve it. If you want to be hated in a development environment, point out to people that they have a problem but you don't know how to fix it. WebInspect points out the code and gives references on how to fix that code. Any developer can take my report and learn how to fix what's wrong. Everyone I've given a WebInspect report to has been impressed, because it was a learning experience for them.

We have two people in IT using WebInspect extensively to test sites across the company. We also tell the in-house developers we use WebInspect so they can test their sites against it. Some departments in the company like to work with [application service providers] for their sites. Our concern is that it's our intellectual property and personal information. We want to know how the ASP will handle that data. Before we sign up with an ASP, we run the WebInspect tool against them. We also do periodic checks using the tool. We can tell whether the ASP is secure or not. I have walked away from companies after seeing the results from WebInspect. I show them the vulnerabilities they have, and if they don't want to fix them, then we won't do business with them.

Gittlen is a freelance technology editor in Northboro, Mass. She can be e-mailed at sgittlen@charter.net.

SPI Dynamics' tool finds holes, suggests fixes.

> ## "It took me a while to find WebInspect. The problem with most vulnerability tools is the false positives."
>
> ### Paul Samadani
>
> - **Title:** Director of corporate technology services, Pentair, in Golden Valley, Minn.
> - **Years in networking:** 23

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- 2005 Attendee

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By SUSAN SCHAIBLY

IN years to come, this decade might well be known as the Age of the Blog. About 80,000 blogs are created every day, according to Umbria Communications, a new-media monitor. Technorati, the popular blog-tracking site, keeps tabs on 24.9 million sites and 1.9 billion links. The blogosphere is a crowded, noisy place, and IT blogs are everywhere. All of which means that finding the best blogs to track your top vendors can be more miss than hit. Yet blogs can be worthwhile sources of little-known company or product information. We looked through hundreds of blogs about the companies featured here, many written by anonymous bloggers who claim to have inside connections. The following are a sample of the best blogs offering inside skinny.

MICROSOFT

SCOBLEIZER, A MICROSOFT GEEK BLOGGER
☐ http://scobleizer.wordpress.com/

Robert Scoble is a Microsoft technical evangelist. His blog is a combination of RSS championing, links to news sources and commentary on Microsoft's public triumphs and miscues. Scoble predictably touts Microsoft products, but he also admits a grudging appreciation for competitors. (One post lamented his 12-year-old son's effort to save enough money for a new MacBook.)

When other blogs, such as Engadget and Techdirt, posted rumors that Microsoft was blocking MP3 playback on Verizon phones, Scoble straightened out the situation within hours. With about 2,500 sites linking to his blog, a statement from Scoble gets around the 'Net quickly.

Scoble's credibility is enhanced by his "I'm not hiding anything" attitude. He posts his cell phone number, and he encourages candid comments from readers. One reader had this to say about Scoble's MacBook post, "Does anybody else see the irony in the son of the most well-known Microsoft evangelist being so pro-Apple?" Scoble's spin? "My son wants the expensive MacBook [because] it'll run both Windows and OSX. Enough said. …He's an iPod fan, which got him sold on Apple stuff."

Mini-Microsoft
☐ http://minimsft.blogspot.com/

This blog, published by an anonymous Microsoft employee, pulls no punches when it comes to criticizing the software behemoth. The tagline says it all: "Let's slim down Microsoft into a lean, mean, efficient customer pleasing profit making machine!" Mini has called Microsoft "bloated, big and slow," and has actively discouraged job seekers from looking for work (or accepting work) at Microsoft, though the blogger does think interns can learn a lot from a good dose of Microsoft culture and then taking their talents elsewhere. Yet the blogger writes, "I love Microsoft … and I know we have the innate potential to be great again and to backtrack away from this path of mediocrity." The rant-meter often goes off the charts at Mini-Microsoft, but the fly on the wall point of view is irresistibly addictive. (For links to official, Microsoft-sponsored employee blogs, visit http://blogs.msdn.com/.)

IBM

ED BRILL: COLLABORATION, TRAVEL, TECHNOLOGY, AND MORE ☐ www.edbrill.com/ebrill/edbrill.nsf

Ed Brill, a senior marketing manager for Lotus software, is candid and likable. He praises the company but also acknowledges when IBM gets it wrong. In a Jan. 5 post, he admitted that his knee-jerk defense of IBM (and its slack domain-name management) resulted from drinking "a little too much IBM Kool-Aid," and he went on to write that "Microsoft seems to be very good about this."

The blog displays Brill's wry and biting sense of humor. One of the most viewed posts is a PowerPoint presentation provocatively titled "The Boss Loves Microsoft: Where Does that Leave Lotus?" Another good-natured jab was a post that featured a picture of Microsoft Chief Software Architect Bill Gates carrying a precariously balanced sheaf of papers. "Where's his Tablet PC?" Brill mused. (For a guide to IBM blogs, check out "The Hitchhiking Blogger's Guide to IBM Blogs" at www.rhs.com/web/ibm/hhbg2ib.nsf/web/index.html.)

ORACLE

THE TOM KYTE BLOG ☐ www.tkyte.blogspot.com

Tom Kyte has been using Oracle products since 1988, has worked for Oracle since 1993 and has written several books on the company. Kyte, who is vice president of the Core Technologies Group, owns asktom.oracle.com, a blog overflowing with Oracle technical knowledge (a Jan. 5 post consisted solely of a 9i/10g version of fncRefCursor2HTML).

The mix of highly technical posts and personal observations (a screen shot of an empty e-mail in-box) gives readers a daily-life perspective. Kyte often reports about the technical support problems he solves as part of his job, which makes this blog an excellent resource for Oracle customers. Recently, Kyte polled readers on their preferences for new tech help forums and engaged in a lively debate in the comment section about the value of such sites (www.nww.com, DocFinder: 2333).

(Kyte features an extensive blogroll of Oracle blogs, written by insiders and outsiders. You also can find links to blogs about Oracle at www.orablogs.com.)

Schaibly (sschaibly@aol.com) is a freelance writer in Fort Collins, Colo.

JAMES TURNER

Controlling telecom costs

BY AMY SCHURR

According to a new report from the Aberdeen Group, poorly managed telecom expenses cost the typical large company more than $8 million per year in overcharges and missed rebate and savings opportunities. That's an astounding amount of money being left on the table.

"Telecom is a large and growing expense at most companies," says Rick Saia, an Aberdeen analyst and author of the report. "With the constantly changing market for many telecom services, such as the growth of wireless devices and VoIP, enterprises need to get this spending under control."

"The Telecom Cost Management Process Benchmark Report" finds that large companies with formal telecom cost management programs have more than four times as many invoices under proactive management than those without formal programs. And organizations that have a program to control telecom spending take 30% less time to source a contract.

Some businesses may make telecom spending the domain of finance or operations groups, though in many companies, IT has a hand in it. How good is your department at squeezing the most from telecom spending?

If there's room for improvement, consider the following measures:

● **Manage your service contracts:** As detailed in a recent Management Strategies story (www.nww.com, DocFinder: 2362) on making the most of your IT budget, Habitat for Humanity saved $100,000 in the last year by improving contract management, particularly for phone services. Habitat's CIO double checks the phone bills for accuracy and looks for ways to cut costs by collapsing lines and renegotiating rates.

● **Look to VoIP:** Another money-saving tip from that story is to roll out VoIP to capture savings. The Smithsonian Institute replaced a hodge podge of phone systems with IP PBXs and phones. By migrating, the organization has reduced the annual cost of its voice services by $2.3 million per year, reports CIO Dennis Shaw. And the savings are expected to rise to more than $3 million once the systems are fully rolled out.

● **Let vendors fight for extra business:** Telecom procurement and contract negotiations firm Telwares advises clients to set overall contract commitment at 65% or less of telecom expenses. This provides flexibility and motivates carriers to maintain its value to your business in the hopes of winning more of your traffic. ■

nww.com

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DocFinder: 1002

It's impossible to regulate 'Net neutrality

**BY STEVE TAYLOR
AND LARRY HETTICK**

We support the concept of Internet neutrality, but there are others who suggest regulating 'Net neutrality, which doesn't seem to be a practical solution.

End users get their access either through dial-up connections that connect to a remote access server or through a wireline or wireless broadband connection. At the content end, commercial providers are also typically on a broadband connection to a router to one or more servers.

The 'Net is oversubscribed. Depending on the connection type, the ISP and the server/server farm, oversubscription rates range from 300% to 1,000% or greater. The "Internet" also shares some of the same equipment as other data services at both the physical (optical) layer and at the packet layer.

To make sure that services like a carrier's IP VPN or plain old telephone services, which may share core equipment, meet their service-level agreements, carriers typically use a protocol such as MPLS to prioritize traffic, giving these services a statistically greater change of connectivity.

Service providers also can use various protocols to further prioritize traffic at the customer premise. When a user subscribes to voice and video on the same router, the router can prioritize the voice differently than data traffic.

Let's assume that the government does pass a law demanding 'Net neutrality. The tough part is enforcing neutrality in every piece of equipment on a per-packet basis between a user's computer and a content provider's server. Will the law suggest that companies should self-police their enforcement?

If a governmental agency was responsible for enforcing end-to-end neutrality, then that would require end-to-end monitoring of packet-level traffic, raising a host of privacy concerns.

We must leave the final solution to "market forces" to solve the problem. Maybe some users will be sophisticated enough to understand why using an ISP that doesn't charge content providers is preferred. On the other hand, maybe users won't care enough to make a choice in favor of neutrality. For a company like Google or Vonage to mount a user education campaign on the issue may be more costly than just paying the ISP in the first place.

Taylor is president of Distributed Networking Associates and publisher/editor-in-chief of Webtorials. *He can be reached at taylor@webtorials.com. Hettick, who is vice president for Telecom Services and Infrastructure at Current Analysis, can be reached at lhettick@currentanalysis.com.*

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DocFinder: 1002

Golden State Foods exceeds goals with OmniCenter

Michael Bourque, Technical Services Manager of Golden State Foods, speaks about his experience with Netreo's OmniCenter™ network management appliance.

Golden State Foods (GSF) has processed and distributed replenishable supplies to McDonald's Corporation since it opened its first restaurants in the 1950s. GSF's worldwide operations include locations across the United States, Egypt, Australia, and Malaysia.

Q: What made you decide to look at changing network management platforms?

A: Our network was growing at a very rapid pace and it was hard to keep up. So instead of hiring more admins, we needed something to help us fight the battle of keeping up with all of our locations and diverse systems.

Q: What criteria did you use to evaluate them?

A: Our criteria for selection was first, does it interact with all our diverse systems. Second, can this all be done from one central location without impacting the Wide Area Network? We also considered complexity. We didn't want something you needed to go to a week of classes and still couldn't understand how it works or how to make any changes. And finally there was cost, OmniCenter gives you more bang for the buck than anything else I have seen.

Q: What is the main benefit to your company that OmniCenter provides?

A: OmniCenter keeps us alerted and aware of what is going on so we can be more proactive and not reactive. It gives us an overall view of the performance and availability of all our network assets, which allows us to detect, diagnose, and fix a problem before any users were aware something was wrong. With this information we can investigate problems, determine capacity, and plan for the future or justify technology decisions.

Q: How long did it take to see payback from the investment in OmniCenter?

A: The payback was almost immediate. Right after installing it, we were alerted that one of our iSeries servers was running out of disk space and we were able to catch it before it crashed. The financial impact would have been tremendous. It would have taken a team of about ten highly paid system admins and programmers a week to a week and half to get all the data back in order.
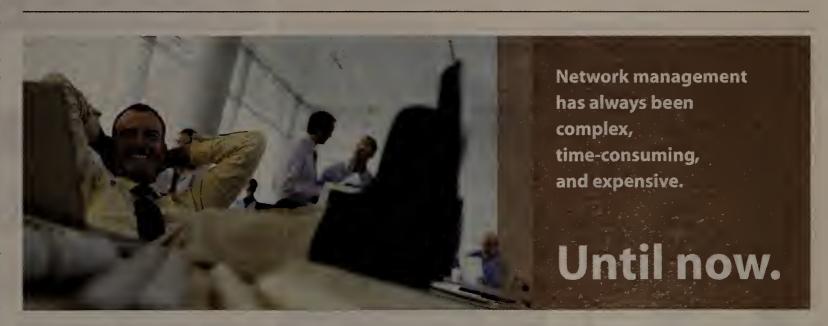
OmniCenter has made dramatic differences in the lives of all of our IT and Help Desk personnel. By relieving them of routine "babysitting" chores, OmniCenter allowed us to reach about 125 percent of our business goals for last year.

Q: Many network management platforms require a huge project to implement and take months or years to complete. What was the OmniCenter implementation like?

A: It was like "flipping on a switch." Once the Omnicenter was in and the initial configuration was setup we were monitoring our systems. In just one day, we were able install OmniCenter and configure it to poll fifteen different sites and hundreds of different devices, including our IP video conferencing system. Overall it was a very simple and stress-free implementation.

Michael Bourque has been with Golden State Foods for 9 years. He carries the MCSE, CCNA, CNE, IBM Certified Professional and Lotus Notes certifications. His responsibilities include all aspects of GSF's network infrastructure, including network security, email and web systems, and AS400.

Network management has always been complex, time-consuming, and expensive.

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Netreo's OmniCenter™ family of network management appliances have helped hundreds of America's leading corporations and universities dramatically reduce IT management costs and improve availability. Our agentless and clientless architecture makes the process of managing even the largest and most complex environments remarkably simple, and makes implementation a breeze.

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*Indicates Regional Demographic

Network World, Inc.

IDG

Sales Offices

BACKSPIN Mark Gibbs

The format is in the e-mail

What is e-mail for? I ask that rhetorically because I think I know the answer: to communicate information.

But this leads to a more complex question: How much information can we communicate using an e-mail message? Moreover, how much information should we be able to communicate?

When e-mail first appeared it was a plain-text medium that, while effective, was deficient in certain important ways that concerned getting a message across. A consequence was that people resorted to ugly devices such as emoticons.

Since those early days, e-mail has evolved and Microsoft, more than any other company, has enabled richly formatted e-mail such that it has become commonplace. In Outlook Express and Outlook 200x, Microsoft has always offered RTF and HTML formats, but the majority of users appear to prefer HTML.

The adoption of HTML-formatted e-mail was driven primarily by non-technical users who discovered that they could employ backgrounds, animated GIFs and other devices to liven up their e-mail. Developers consequently jumped on the bandwagon and started making e-stationery available, an endeavor that has become a sizable

business. I just did a Google search on "email stationery" and got 594,000 hits!

At the more normal end of the e-mail-formatting spectrum, users restrict themselves to fonts and their attributes, highlighting, indenting and so forth. I occasionally receive over-designed HTML-formatted e-mail in which the sender has little or no sense for layout, color or even rationality.

But as much as I dislike messaging with excessive formatting, I also have to defend people who use it: Anyone using over-the-top e-stationery must think his message is better using it. Anything that improves an e-mail is a good thing, as many people are not good writers. Anything that can get people to spend more time thinking about message content should be welcomed.

Formatting also improves an e-mail for competent writers. You can create a table using nothing but ASCII characters, but it will take a lot of time and be far less flexible. HTML makes document layout much easier, which, in turn, usually improves informational value.

I raised the issue of ASCII- vs. HTML-formatted e-mail in a mail list I subscribe to and the arguments that came back against HTML mail were interesting. For example, "HTML-only correlates with lack of clue and terrible party skills," wrote one person, and "Is there really any benefit to HTML mail? Can't you express everything you want to say in an

e-mail without fancy formatting?"

We can assign comments such as "lack of clue" to those who have been on the 'Net a long time. The reason for their distaste of formatting is that they almost exclusively use Unix or Linux and have no need to migrate to new-fangled, proprietary platforms (that is, Windows). They belong to what I'll call Old School E-mail.

Another prototypical objection is, "Any e-mail that contains automatically executed code is bad." This is true. In fact, the security issues involved are a good argument against the inclusion of any scripting in HTML e-mail.

Users who belong to the New School E-mail culture want to have the same flexibility of expression that they have in the real world — they want to send documents that are identical to those they produce with word processors.

We recognize that the Old School is unlikely to change, but can we find a safe, expressive medium that satisfies the presentation requirements of the New School and addresses at least some of the Old School's concerns? My suggestions are a limited set of HTML that excludes scripting and Cascading Style Sheets or a technology such as Adobe's Flashpaper.

Head over to Gibbsblog (www.nww.com, DocFinder: 2382) and tell me what you think of HTML mail and if there are better solutions. Other thoughts to backspin@gibbs.com.

NETBUZZ News, insights and oddities

Start-up taps CEO: A name you can trust

Paul McNamara

Hey, have you heard what Paul McNamara is up to?

No, not me. And, no, not my shiny new blog.

I'm talking about another Paul McNamara — known hereafter as The Other One — a Silicon Valley veteran, most recently with El Dorado Ventures, who first crossed my radar when he was an exec at Red Hat in the late '90s.

The Other One has taken the CEO reins of an El Dorado-backed start-up temporarily called Versai Technology, which is holed up stealthily in what the company's new blog — www.charterstreet.com — calls "an industrial section of Redwood City (one of the few remaining industrial sections in Silicon Valley)." Versai was founded by CTO Greg Olsen, whose previous venture, Extricity, was a business-to-business integration specialist that was acquired for $168 million in 2001 as part of a buying spree by Peregrine Systems, itself snapped up by HP last year.

The Other One sent me an e-mail recently to let me know that his company's blog was up and running. "We plan to use the blog to talk about issues in the software and Internet space and hopefully give people some insight into our thinking," he says.

Naturally, I asked The Other One for details about Versai:

"Here's what I can tell you: We are a software-as-a-service company with a twist. We empower businesspeople to easily create and use custom-tailored [software-as-a-service] applications. In some ways we will be competing with Salesforce AppExchange, but our approach will be different and our appeal will be broader. I'll need to demonstrate this last point to you once I can talk more expansively about the product."

In the meantime, you can definitely get a sense of the angle from which The Other One is coming at the opportunity by reading his blog essay entitled "The Software Complexity Racket." (The piece is so well written I don't mind seeing my name on it.)

The first time I spoke with The Other One was in 1998 when he was at Red Hat and I was writing a story that carried the headline "Linux cyn-

ics." My byline and his quotes promised such confusion that we felt compelled to explain the lack of any relationship in an editor's note. Hope everything is clear now.

Pay for podcasts? . . . Sure, why not.

My experience with British humor begins and ends with Monty Python (my wife and I have tickets for Spamalot in Boston next month). And I don't own an iPod.

Nevertheless, it heartens me to see a British comedy podcast called The Ricky Gervais Show now being made available on a subscription basis via Audible.com.

"Their irreverent brand of monkey-based comedy has seen the weekly half-hour podcast storm to the top of the iTunes charts and stay there," says one online account.

Don't ask me what "monkey-based comedy" means, but it has been available for free on iTunes previously and will now cost $7 a month.

That's good news if, like me, you believe that people ought to pay for good stuff on the Internet because the people who create it have to eat. It's a self-centered ideal, obviously. So monkey-on, you British cut-ups.

Meanwhile, back at Buzzblog

Week No. 3 has been going well. Traffic is up, in no small measure because of the rising tide created at networkworld.com by hundreds of thousands of visitors streaming in to see my colleague Adam Gaffin's Times Square photograph of The World Largest Windows Error Message (www.nww.com, DocFinder: 2371). Believe it or not, this photo has produced more traffic than anything in the history of our site.

There's still time to get yourself listed on the low-volume Buzzblog Brigade e-mail distribution list. Just send me your address.

Spamalot reviews and other commentary should be directed to buzz@nww.com.

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